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ANALYSIS OF THE SUBJECT BRANCH OF PUBLIC ADMINISTRATION OF THE RISKS OF EMERGENCY SITUATIONS

The article is devoted to the analysis of the subject area of public emergency risk management.

One of the activities of the State Emergency Service of Ukraine to reduce the risk and reduce the consequences of natural disasters, accidents and catastrophes is the creation of a system for monitoring and forecasting emergency situations and coordinating work in this field.

Keywords: *state policy; monitoring; information; emergency situation; Civil Protection.*

Formulation of the problem. The inclusion of a large number of agencies in a single system of forces and means leads to the availability of wide opportunities for solving complex monitoring tasks. At the same time, certain difficulties arise in the organization and information combination of departmental systems. The analysis shows that for some types of danger, the functions of monitoring and forecasting overlap, duplicate and complement each other, all types of danger in general, to one degree or another, are covered by certain ministries and departments. However, there remain a number of unresolved issues in the field of emergency monitoring and forecasting related to risk reduction and mitigating the consequences of natural and man-made emergencies, for example:

- there are no nationwide certified methods for assessing consequences and determining risk levels;
- there are no standards of criteria and indicators of acceptable risk for the population from natural and man-made disasters;
- zoning of territories according to man-made risk levels has not been carried out;
- no state system of supervision over compliance with acceptable risk levels has been created.

Analysis of recent research and publications. Research issues of various aspects of emergency risk management, civil safety, man-made safety, natural disasters, etc. is the subject of scientists E. Buravlyov, V. Hetman, S. Andreev, S. Ivanyuta, N. Klymenko, and others. At the same time, in recent years, the influence of external factors on the security system in the field of civil defense of Ukraine has been increasing, and many issues regarding the system of prevention and liquidation of the consequences of emergencies remain insufficiently researched.

Presenting main material. The subject area of emergency risk management is determined by a set of management bodies and objects, goals, functions and management tasks related to ensuring safety in emergency situations [1]. Ensuring safety in the National Emergency means the adoption and observance of legal norms, the implementation of environmental protection, industry or departmental requirements and rules, as well as the implementation of complex organizational, economic, environmental protection, sanitary and hygienic, sanitary and anti-epidemiological and special measures aimed at ensuring protection of the population, objects of the economy and the natural environment from dangers in the state of emergency. Emergency risk management refers to purposeful actions performed by management bodies of all levels of the State Emergency Situations and related to the preparation of decisions defining the list.

The process of public management has a cyclic nature, each cycle of management, in general, can be represented by a sequence of stages:

- goal formulation and task setting;
- making and making a decision;

- implementation of the decision.

To make a decision, the following is necessary:

- have a clearly formulated goal or task;
- have a fairly certain idea about the state of the system and environment;
- have alternative strategies;
- consider important factors when choosing one of the alternatives.

Factors taken into account when making a decision can be divided into two main groups:

- resources (financial, human, logistical, food, medical, time, vehicles, etc.);
- natural and technical factors (properties of materials and substances, technical characteristics of equipment, laws of nature, etc.) [2].

In order to form an initial idea about the situation and increase its credibility, a set of procedures for assessing the situation is envisaged, related to the analysis of the collected information, comparison and generalization of the data obtained from various sources. As a result of these procedures, the management body produces and records in a certain form its idea of the controlled system and the environment from which it will proceed when making decisions. Implementation of the decision is related to the implementation of the operation, that is, the implementation of its plan and obtaining the desired result. For this, the performers must receive appropriate tasks, and their execution must be monitored.

During the execution of the decision, due to external influences and imprecise behavior of the executors, deviations from the planned course of the operation inevitably occur. These deviations lead to the need to monitor the current state of the system and implement such management that ensures the achievement of the goal. In the process of carrying out the operation, the management body has to set private tasks for the elimination of deviations in case of deviations, make decisions, seek their implementation, evaluate the results of solving private tasks and draw conclusions for the future. Thus, during the operation due to external and internal disturbances, cycles constantly arise: "task - decision - execution - evaluation - recommendations". The totality

of these private cycles, inevitable during the operation, forms the process of operational public management.

In operational public administration, decisions are formed as a result of comparing the plan of the operation and its goal with information about the implementation of the plan and the degree of achievement of the goal. The management body, observing the progress of the operation from the information received through the feedback channel, confronts the obstacles with its decisions in such a redistribution of resources that ensures the achievement of the goal. At the same time, redistribution can be associated not only with the redistribution of resources at the disposal of the management object, but also with the allocation of some additional resources to compensate for deviations. When considering management in any organizational system, it is necessary to take into account the presence of several levels of management. The organizational system is presented as a set of multi-level hierarchical subsystems of varying degrees of significance in the sense of achieving the goal of the operation carried out by the organizational system as a whole. The aggregation of decision-making information and metrics and their reverse disaggregation in order to bring decisions down to lower levels is basically not formally mathematical. The rules of aggregation and disaggregation are the result of long-term management experience in one or another field of human activity.

Considering the cyclic nature of public management, consider the operation management process in the form of a repeating sequence of stages. Each stage is associated with the performance of a certain management function. The management function in this case is considered as a separate type of management work, which can be represented by a stable group of homogeneous information processing procedures. Separation is understood in the sense that performing the procedures of this group allows you to solve a certain private management task and start performing the next function. This representation of the management process allows us to distinguish the following classes of management functions:

- collection of information;
- forecasting;

- assessment of the situation;
- preparation of data for decision-making;
- decision-making;
- delivering information to consumers;
- control over the implementation of decisions;
- accumulation of experience in conducting operations.

Information collection functions are related to obtaining information characterizing the environment (state of the environment and system), their primary processing and storage. To obtain data about the situation, the following are used: intelligence data; information of higher and interacting management bodies; reports of subordinate management bodies, associations and military units, Central Committee formations; reporting and compilation of surveillance and laboratory control network institutions and other sources. Information about the situation comes to the management body in the form of urgent and non-urgent reports, in a formalized or arbitrary form. Urgent reports and summaries are submitted according to a pre-established time and form (defined by the "Table of Urgent Reports" [3] in the State Emergency Service), unscheduled reports - depending on the situation or upon request. Forecasting functions of associated with obtaining probabilistic estimates of the occurrence of emergency sources, the development of emergency situations, and even with the assessment of the scale of possible emergency situations. The scale of the emergency is assessed by such indicators as: the area of the emergency zone; the number of dead and injured, the amount of direct material damage, expenses for emergency liquidation and restoration work, the volume of population evacuation measures, indirect losses (non-admission of industrial products, expenses for pensions, benefits, etc.), etc. The functions of assessing the situation are related to the formation of a reliable and complete picture of the situation, sufficient for the formation of a new or correction of a previously adopted decision to conduct an operation. At the same time, the analysis and generalization of data on the state of the external environment and the system takes place; mutual comparison of information obtained from different sources, as well as their comparison with forecasting results. The

functions of data preparation for decision-making are related to the determination of the composition, timing and scope of planned events; the composition and volume of forces, means and resources necessary for the implementation of the selected measures; preparation of variants of plans for holding complexes of events; formation of criteria for choosing rational solutions. Decision-making functions consist in comparing alternative decision options and choosing the optimal one, as well as drafting a decision in the form of a directive document. The functions of providing information to consumers are related to the transmission of orders and instructions to subordinate management bodies, reporting documents for higher management bodies, messages for the coordination of joint actions to interacting management bodies, as well as the submission of reference materials at the request of other management bodies. The functions of monitoring the implementation of the decisions made are to compare the reported data with the data determined by the decisions on the implementation of the measures, and to identify the deviation of the indicators from the planned ones. The functions of accumulating experience in conducting operations are related to the collection of materials on the actions of the management bodies and forces of the State Emergency Service in specific situations, the analysis and summarization of these materials, the evaluation of the effectiveness of the measures taken, the identification of the most effective methods of action and the development of recommendations regarding the actions of the management bodies and forces of the State Emergency Service. It should be remembered that functions with the same purpose at different levels of management may differ from each other in the composition of input and output information indicators, due to differences in the information needs of management bodies at different levels. Let's consider these differences in the link "higher management body - subordinate management body". The management functions of a higher body before a lower body are reduced to solving the following problems:

- allocation of additional forces, funds and resources (within their competence), necessary implementation of planned measures and transfer to operational subordination to subordinate bodies;

- control of the use of allocated forces, funds and resources by a lower body;
- control and coordination of the actions of the subordinate management body, providing it with the necessary methodical and consulting assistance [5].

When solving the first task, the information needs of the higher management body are determined by the following information:

- information about the deployment and possibilities of attracting forces, means and resources that are in the sphere of his competence;
- information about the need for additional forces, means and resources necessary for the implementation of planned activities by the subordinate management body.

Thus, the informational needs of the higher management body are wider than the informational needs of the subordinate organ in terms of data on the deployment and the possibilities of attracting forces, means and resources that are beyond the competence of the subordinate body. When solving the second task, the information needs of the higher management body are determined by information about the actions of forces, means and the use of resources allocated to subordinate management bodies for the implementation of planned activities. At the same time, the information needs of the higher management body are also broader than the information needs of a subordinate body in terms of data on the actions of forces, the use of funds and resources, which are transferred to operational subordination to other subordinate bodies. When solving the last task, the difference in information needs of higher and subordinate management bodies depends on the completeness of the control performed. When monitoring the activities that are being conducted, the higher body needs basic information about the planned activities developed by the subordinate body, the progress of their implementation, the actions of the involved forces, means and use of resources. In this case, the information needs of the subordinate body are significantly greater, as they include complete data on the situation, deployment, and the possibilities of using the forces, means, and resources at its disposal. During the control of the decisions made, aggregated data about the situation (state of the environment) is added to the above information. In this case, the higher body can assess the correctness of the choice of the composition of the activities being carried out, their

necessary volumes, the sufficiency of own forces, funds and resources for the implementation of the mentioned activities. In order to control the plans for the implementation of measures, the higher authority needs all the information in full, which the subordinate management body has to perform the planning functions assigned by it. And here, the higher authority only re-plans the implementation of the necessary measures at the management level and compares it with the plan of the subordinate management body. A set of interrelated actions performed by a management body in a specific situation, which determines the ultimate goal of management, forms a management process [7]. Let's consider the main types of emergency management processes, taking into account the following aspects:

- type of measures to prevent or eliminate emergency situations;
- management level;
- type of management body

At present, it is accepted to divide measures for the prevention and elimination of emergencies into two main types: prevention and elimination. The term "emergency prevention" includes all measures that are carried out in advance (before the occurrence of an emergency) and are aimed at reducing the risk of an emergency as much as possible, as well as preserving people's health, reducing the amount of damage to the surrounding natural environment and material losses in the event of their occurrence. With this interpretation, this group includes measures that are carried out both in the absence of a threat of emergency situations and in conditions of a direct and concrete threat of an emergency. The term "elimination of an emergency" includes all measures that are carried out in the event of an emergency and are aimed at saving lives and preserving the health of people, reducing the amount of damage to the surrounding natural environment and material losses. Taking into account the need to automate the management of measures for the prevention and elimination of emergencies, it is advisable to clarify the above classification. Therefore, we will consider the structure of the concept of "emergency situation", based on the definition [1]. Let us distinguish three characteristics of emergency situations:

- Presence of a source of danger (explosive, poisonous, radioactive substances, etc.);
- Actions of factors affecting in the event of danger (gas emission, explosion, ignition);
- Finding people, farm animals, land in the area of influence of the impacting factors. Emergency situations are classified according to different characteristics.

The source of danger is a dangerous natural phenomenon, an accident or a dangerous man-made event, a widespread infectious disease of people, farm animals and plants, as well as the use of modern means of destruction, as a result of which an emergency situation has occurred or may occur. Actions of factors affecting the occurrence of hazards — a component of a dangerous phenomenon or process, caused by the source of an emergency situation and characterized by physical, chemical and biological actions or manifestations determined or expressed by the relevant parameters of being in the zone. Actions of impacting factors - the negative impact of one or a set of impacting factors of the source of an emergency on the life and health of people, farm animals and plants, objects of the national economy and the natural environment. A specific emergency can be caused by several sources; each source has, generally speaking, several impressive factors; each striking factor can be characterized by several striking effects. The type of measures will be determined by the level of danger in the emergency. A danger in an emergency means a state in which a threat of impressive factors and effects of the source of an emergency on the population, objects of the economy, and the surrounding natural environment has been created or is likely to occur. Taking into account the degree of realization of the danger, which is determined by the presence of the source of emergency or the probability of its occurrence, we distinguish three levels of danger: in which a threat of impressive factors and impacts of the emergency source on the population, objects of the economy and the surrounding natural environment was created or probable. Taking into account the degree of realization of the danger, which is determined by the presence of the source of emergency or the probability of its occurrence, we distinguish three levels of danger: in which there is a probable threat

of the emergence of impressive factors and effects of the source of emergency on the population, objects of the economy and the surrounding natural environment. Taking into account the degree of realization of the danger, which is determined by the presence of the source of emergency or the probability of its occurrence, we will distinguish three levels of danger:

- absence of a threat of emergency occurrence (there is no source of emergency, the probability of its occurrence is insignificant);

- the presence of a threat of an emergency (the source of an emergency is absent, but the probability of its occurrence is significant; or the source of an emergency is observed, but its impressive factors have not yet begun to act);

- the presence of emergency situations (the presence of an influencing emergency source).

According to the levels of danger defined above, we will distinguish three types of measures, which differ in their ultimate goals, content and nature of their implementation:

- emergency prevention measures (carried out in the absence of a threat of an emergency in the daily activity of the emergency services, aimed at preventing or eliminating the prerequisites for the emergence of emergency sources, as well as preparing for possible emergencies, in the absence of an immediate threat of their occurrence);

- measures to prevent emergencies (carried out in the event of a threat of an emergency in the state of increased readiness of the RSCS, aimed at eliminating a timely identified source of an emergency, as well as preparing for an emergency in the event that it cannot be eliminated);

- measures related to emergency liquidation (carried out in the event of an emergency in the emergency mode of the State Emergency Service, related to the implementation of urgent works in the emergency zone, as well as life support for the affected population and personnel of the emergency liquidation forces). Thus, depending on the type of emergency prevention and elimination measures, three main classes of management processes can be distinguished:

- management of emergency prevention measures;
- management of emergency prevention measures;
- management of emergency liquidation measures.

Selected classes of management processes should be considered at different levels of management of the State Emergency Situations for different types of management bodies.

Conclusions. Currently, we see a great complication of the situation in terms of natural and man-made disasters, accidents and catastrophes in most regions of the country, this calls for the need to improve the level of monitoring of territories and the formation of forecasts of the occurrence and development of emergency situations. Obviously, this will make it possible to improve the public emergency risk management process. Emergency risk management is a multifunctional phenomenon that is a system of interconnected elements. The need to create centers, regional and territorial monitoring and forecasting systems allow preventive or adequate response to risks, threats and dangers.

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