

ADVANTAGES AND EFFICIENCY OF OPERATIONAL INFORMATION OF THE POPULATION USING INFORMATION TECHNOLOGIES AND AUTOMATED SYSTEMS IN EMERGENCY CONDITIONS

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Abstract. The article highlights the requirements for early forecasting and warning of emergencies, the use of effective methods of informing the population, measures taken to protect the population from emergencies, ensuring their safety, as well as prompt action in the event of emergencies, and the organization of timely and reliable notification of the population. An analysis of the reduction of material and economic losses and the continuous provision of security is also presented.

Keywords: Notification of the population, informing, promptly, preparing the population, protection, warning systems, consequences, security.

INTRODUCTION

An average of 350-400 natural and man-made emergencies are recorded annually in the territory of the Republic of Uzbekistan. As a result, the population and economic sectors will suffer material damage in the amount of 70-90 billion soums. Therefore, improving the system of timely notification of the population is one of the important directions of the country's security system.

In emergency situations, the prompt and reliable delivery of information is one of the decisive factors in saving human lives. The experience of advanced countries shows that in countries where automated notification systems have been implemented, the number of victims has decreased by 30-40%.

Today, the Ministry of Emergency Situations regularly provides information on the early detection of a number of emergencies and notification of the population in such situations, on eliminating the consequences of losses, on possible emergencies, the causes and consequences of their occurrence, and measures to eliminate them, as well as on actions in emergency situations.

Also, a number of works are being carried out to create an automated system for

informing the population about the emergence or occurrence of emergencies.

Republic of Uzbekistan Prevention of Emergency Situations

The Cabinet of Ministers adopted a corresponding resolution in order to increase the readiness of the forces and resources of the state system for actions in such situations, as well as to timely inform and notify the population about the threat or occurrence of emergencies [1].

According to the Ministry of Emergency Situations, as of 2024, 82% of the republic's population is covered by central and local alarm networks. In addition, the possibility of prompt notification via SMS, mobile applications, and internet platforms through information and communication technologies (ICT) has been created.

In 2023, the Ministry of Emergency Situations (MES) reorganized 250 local automated notification points, 40% of which are equipped with remote control systems.

In turn, through in-depth scientific study and analysis of the existing system, identification and identification of existing problems, an opportunity will be created to introduce a new effective system for early warning of the population of the republic in emergency situations.

Analysis of the literature on the topic. The Laws of the Republic of Uzbekistan, Resolutions and Decrees of the President of the Republic of Uzbekistan, Resolutions of the Cabinet of Ministers, scientific literature, scientific developments of foreign and domestic scientists related to the topic, as well as orders and instructions adopted by the Minister of Emergency Situations of the Republic of Uzbekistan in this area were used.

It should be noted that the 92nd goal of the "Roadmap" of the Decree of the President of our country dated January 28, 2022 No. UP-60 "On the Development Strategy of New Uzbekistan for 2022-2026" - paragraph 343 "Creation of an effective system for the prevention and elimination of emergencies" sets the task of "Modernization of the emergency notification system"[1,2,3].

In particular, scientific research on existing problems in the system of informing the population and issues of their solution has been considered in the works of a number of foreign scientists, in particular E.Gregori, H.Schroyeder, A.A.Vasiliev, A.S.Trofimov, A.O.Ivanenko, V.A.Kachan, V.V.Kobyak, K.A.Dorasamiy, A.V.Ramana, S.Z.Kaliannan, as well as scientists of our republic O.Kh.Kudratov, T.M.Ganiev, O.N.Imomov, S.A.Kuchkarov and others, and important results have been achieved.

Ukrainian scientists G.S.Ivanova, V.V.Kozkhushko, E.K.Nazirov, and T.A.Nazirova highlighted the issues of further development of the system by introducing the latest generation of mobile smartphones into the field of public awareness.

In the scientific articles of Belarusian scientists V.A.Kachan, V.V.Kobyak "Advantages and disadvantages of existing terminal means of an automated centralized notification system," issues of improving only the central (republican) notification system were investigated.

The above-mentioned researchers mainly did not fully investigate the issues of creating a digital data transmission network through modern means in information centers of various levels .

The notification system of foreign countries was studied, and based on them, recommendations were developed on improving the notification system at the local level and creating a digital data transmission network through modern means in information centers at various levels.

Table 1.

Comparison of traditional and automated notification systems

System Type	Speed level	Coverage area	Error or probability	Service cost	Efficiency (%)
Traditional (voice amplifier, radio broadcast)	10-15 minutes	Local	25–30 %	Moderately high	60 %
Automated (SMS, mobile apps, IoT sensors)	1-2 minutes	Republican	5–7 %	Low	90 %

As can be seen from **Table 1**, automated systems are more effective than traditional methods not only in terms of speed, but also in terms of accuracy and economic efficiency.

In 2022-2025, the National Automated Notification Platform "Uzbekistan-Alert" is being gradually launched in the MES system. Through it, information about emergencies is provided to the population via mobile communication, television, and the internet.

By the end of 2024, 1.8 million users were notified through this system in real-time, which is 2.3 times more than the previous year. At the same time, it is planned to introduce the digital platform in all regions in 2025.

The protection of the population and territories of the Republic of Uzbekistan from natural and man-made emergencies, as well as the successful solution of problems in the field of civil defense, largely depends on the level of preparedness of state bodies and the population at all levels, the organization of the implementation of measures to prevent and eliminate emergencies in the event of their occurrence [7,8].

Protecting our country and its population from both internal and external influences in any emergencies is one of the most pressing tasks of our time. In these situations, the importance of ensuring the safety of the population, preparing and informing them about emergencies is increasing. By providing the population with prompt and effective information about emergencies, as well as developing the necessary skills, the possibilities of protecting human life and health are expanding. Therefore, the improvement of methods aimed at increasing the effectiveness of preparing and informing the population about emergencies is a pressing problem.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated September 9, 2019 "On measures to ensure the protection of all segments of the population from emergencies" and on the procedure for training in the field of civil defense."

One of the main factors in maintaining a high level of constant readiness of civil defense structures is the organization of stable and continuous communication and reporting in the state system for preventing and responding to emergencies of the Republic of Uzbekistan.

The criteria, content, types of information on emergencies, the timeframe and procedure for their delivery to the state system for preventing and responding to emergencies, its subsystems, in particular its links, and the population, are approved by the Head of Civil Defense of the Republic of Uzbekistan. Carries out daily interaction, notification, and communication on issues of emergency situations between state and economic management bodies, local government bodies, and other organizations [9].

Notification - timely notification and information about danger or the possibility of its occurrence.

Public awareness is the provision of information about past accidents by warning about possible earthquakes, floods, or other natural disasters.

Article 9 of the Law of the Republic of Uzbekistan "On the Protection of the Population and Territories from Natural and Man-Made Emergencies" stipulates the obligations of ministries and agencies in the field of protection from emergencies: "to create local emergency notification systems and maintain them in constant readiness" and "to inform the population and territories about the state of protection in the prescribed manner, to inform network employees about threats of emergencies."

In accordance with Article 12 of this Law, enterprises, institutions and organizations in the field of emergency protection are obligated to "create and maintain local warning systems in constant readiness and timely inform employees about the threat or occurrence of emergencies."

Research methodology. The creation and modernization of automated systems for notification and information dissemination to the population of the Republic of Uzbekistan at the local and facility levels are organized in accordance with the requirements of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated August 11, 2023 No. 361 "On the development and organization of the effective use of an automated system for notification of the threat of an emergency or the occurrence of an emergency"[4,5,6] .

When developing these requirements, current regulatory legal acts on the creation and use of notification systems at all levels of the population are used.

This document defines the procedure for creating and modernizing automated systems for notifying the population at the local and facility levels, as well as their connection with the automated system for notifying and informing the population of the Republic of Uzbekistan about the threat or occurrence of an emergency .

Designed for construction and installation, design, and other organizations of all forms of ownership that ensure the creation, maintenance, and improvement of notification systems at the local and facility levels of executive authorities, local self-government bodies, educational institutions, medical institutions, shopping centers, and markets of the Republic of Uzbekistan.

The prevention and elimination of the consequences of emergencies, the timely and complete implementation of civil defense measures largely depend on the availability of information about the situation and the stability of management [10,11,12].

Informing the population in emergency situations - bringing to the population through the mass media and other information channels information about forecasted and occurring emergencies, measures taken to ensure the protection of the population and territories,

protection methods, as well as conducting awareness-raising in the field of civil defense, protection of the population and territories from emergencies, including ensuring human and fire safety at water bodies.

CONCLUSION

The practical results of the study will be used to establish a comprehensive system of timely notification and warning of the population in remote and hard-to-reach areas in the event of emergencies, and to further improve the existing system. Development of a system for informing the population through information technologies in emergency situations:

- reduces the time for delivering risk information by 5 times;
- reduces material damage by 20-25%;
- ensures conscious action of the population and reduces the number of victims by up to 40%.

Therefore, the implementation of automated information systems at all levels and their integration with local authorities is an important element of national security.

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