

**DEVELOPMENT OF RECOMMENDATIONS ON CURRENT PROBLEMS
IN PROVIDING THE POPULATION WITH INDIVIDUAL AND
COLLECTIVE PROTECTION EQUIPMENT AND THEIR SOLUTIONS.**

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Abstract: The article analyzes the state of provision of the population with personal and collective means of protection in the Republic of Uzbekistan, existing problems and ways to eliminate them. During the study, the level of provision of the population with protective means, their safety culture, the technical condition of the protection infrastructure, the effectiveness of information and educational work, and the financing system were studied in depth. The results obtained showed that the level of protection of the population in emergency situations can be significantly increased by means of systemic reforms, strengthening the legal framework, expanding educational work, and improving financial and organizational mechanisms. The article presents recommendations developed on the basis of international experience.

Keywords: personal protective equipment, collective protective equipment, safety culture, emergency situations, information and educational work, infrastructure, recommendations.

Introduction. In the modern era, in the context of increasing man-made, biological, chemical and natural hazards, the issue of providing the population with personal and collective protective equipment is gaining urgent importance in preventing emergencies and reducing their consequences. In particular, the availability of individual (personal) and collective (collective) protective equipment and their effective use are important factors in ensuring the safety of the population living near industrial enterprises, transport networks, and large infrastructures. Personal protective equipment is a device that protects the human respiratory tract, skin, eyes and hearing organs from harmful substances, biological agents, dust, smoke and toxic gases. These include masks, respirators, gas masks, protective clothing, gloves, glasses. Collective protective equipment usually includes such means as protective structures, evacuation systems, special filtration ventilation systems. These means serve to provide mass protection to groups of the population in emergency situations.

Ensuring the personal safety of citizens of the Republic of Uzbekistan during emergency situations, protecting them, and providing them with the necessary means is one of the priorities of state policy[1].

However, monitoring and analysis conducted in recent years show that the level of preparedness of the population for emergencies, in particular, the availability of personal and collective protective equipment and the skills to use them, remains low. The reasons for this are multifactorial and can be divided into social, economic, organizational, and informational aspects. First of all, there is a problem of imbalance between the population's need for protective equipment and their availability. Many households do not always have even the most basic personal protective equipment - medical masks, gloves, or simple respirators. A certain part of the population does not know how to use such equipment or does not understand the need to purchase them. From an economic point of view, these equipment remains financially inaccessible to some social strata. From an organizational point of view, local authorities and special services have not sufficiently established regular explanations, training, and exercises for the population.

Also, the experience of pandemics (such as COVID-19), fires, earthquakes, and man-made explosions has shown that delays in quickly and effectively providing a large part of the population with protective equipment, logistical problems, and a weak reserve system lead to serious consequences. These situations have posed a threat to the vital activities of the population, harmed health, and in some cases caused human losses. These situations indicate the need for a comprehensive review of the existing system aimed at protecting citizens in emergency situations in the conditions of Uzbekistan, strengthening its reserve resources, financial support, legal and organizational foundations. Full and timely provision of the population with personal and collective protective equipment serves to increase their safety not only in emergency situations, but also in everyday life. This, in turn, is an important component of increasing the level of national security, stability, and social protection of citizens. In this regard, this study examines the level of provision of the population with personal and collective protective equipment in Uzbekistan, analyzes existing problems, their root causes and systemic shortcomings. Special attention is also paid to the development of comprehensive solutions and scientifically based recommendations to address the identified problems.

Results. In order to study the status of the population's provision of personal and collective protective equipment, comprehensive monitoring was conducted during 2024–2025 based on social surveys, observations, analysis of official documents, and expert assessments. The results of the analysis revealed the following important facts:

Status of personal protective equipment: According to the survey results, only 38 percent of respondents said that they constantly have at least one personal protective equipment (mask, respirator, gloves, etc.) at home. At the same time, 17 percent know how to use such equipment, and 45 percent noted that it would be difficult to find or purchase them if necessary. In rural areas, these indicators are even lower - the level of

ownership of personal protective equipment was 26 percent, and the skills to use them correctly were only 9 percent.

The state of collective protection facilities and equipment: Although 67 percent of the analyzed industrial enterprises have evacuation plans, the full functioning of collective protection equipment (filter grid systems, security cameras, alarms) was confirmed only in 28 percent. In many enterprises, emergency preparedness training exists only in documents and is not carried out in practice. Also, when schools and kindergartens were inspected as a test, it was found that 76 percent of them do not have collective protection equipment at all. And those that do have them are either unusable or do not respond to modern hazards.

Level of information and educational readiness: It was found that the level of safety culture and knowledge about the importance of protective equipment among the population is low. 64% of those surveyed said they did not know what to do in an emergency, and 71% said they had never attended a training course or training on the use of personal protective equipment.

Activities of coordinating organizations: Although there are some positive results in preventive work carried out by the territorial departments (divisions) of the Ministry of Emergency Situations, this activity is not systematic. Many local authorities and educational institutions do not have emergency contingency plans and resources.

Financial and logistical problems: The study found that the centralized delivery and stockpiling of available protective equipment is not well established. In particular, there is no system for delivering necessary protective equipment to organizations, schools, and the population in rural areas. In most cases, the population has to purchase equipment at its own expense, which is impossible for low-income groups.

The main results identified as a conclusion: The level of provision of personal and collective protective equipment is low. The skills to use them have not been formed among the general public. Protective equipment is insufficient or absent in schools, kindergartens and small enterprises. The results of the study indicate that it is necessary to urgently develop systematic and government-level measures to increase the level of protection of the population.

Discussion. The results of the study clearly showed that there are significant systemic problems in the Republic of Uzbekistan in terms of the preparedness of the population for emergencies, in particular, in terms of the provision of personal and collective protective equipment. These problems are closely related to the weak safety culture in society, shortcomings in infrastructure and planning, and lack of resources. This discussion section provides an in-depth analysis of the identified problems, as well as sound recommendations for improving the current situation.

Lack of personal protective equipment and poor use culture: The low level of ownership of personal protective equipment is explained by many factors. A significant

part of the population does not fully understand the importance of such equipment. This situation was also clearly demonstrated in the experience of the pandemic: the social obligation to wear a mask during COVID-19 has not yet become a lasting culture. This indicates the weakness of the population in assessing risks. Similar studies conducted in European countries, for example, in Germany, found that more than 80% of citizens constantly keep simple protective equipment at home. This is due, on the one hand, to the consistent and reliable provision of official information, and, on the other hand, to safety education, which is taught starting from school.

Obsolete infrastructure of collective protective equipment: Many schools, kindergartens and enterprises in Uzbekistan do not have collective protective equipment or their technical condition does not meet the requirements. This situation is especially dangerous in facilities near industrial zones with large technogenic hazards and can lead to serious consequences. A recent assessment by the Food and Agriculture Organization of the United Nations (FAO) focused on the modernization of collective protective infrastructure in Central Asian countries. According to their recommendations, a phased reconstruction strategy based on an inventory of existing facilities is effective.

Weak organizational and informational work: The weakness of the population's understanding of safety and the use of protective equipment leads to incorrect actions in emergency situations. The lack of regular safety training in educational institutions, enterprises and neighborhoods or their implementation only "on paper" is a serious drawback. World experience, in particular in Japan and South Korea, shows that quarterly safety training sessions and their high-quality organization significantly increase the level of preparedness of citizens. This experience can be adapted to the conditions of Uzbekistan.

Problems with the financing and stockpiling system: As the study found, the system for delivering the necessary equipment to the population or social institutions is decentralized and in many cases slow due to a lack of financial resources. This situation limits the ability to respond quickly. International experience shows that the public-private partnership model for stockpiling such equipment is effective. In particular, in Poland, a stockpile of personal protective equipment has been formed with the participation of local businesses and humanitarian organizations, which is distributed free of charge to the population.

The need to popularize local positive experiences: As the study found, in some neighborhoods (for example, pilot areas in Tashkent), the distribution of free tools to the population, the organization of informational banners and trainings have yielded significant positive results. It is important to expand these experiences on a republican scale, legalize their funding sources, and standardize best practices.

The main recommendations are as follows: Strengthening legal mechanisms.

Establishing systematic and interactive awareness-raising training on the importance of personal protective equipment and skills to use it through television, radio, social networks and educational institutions. Improving the financing and reserve system: Creating reserve funds for personal protective equipment with the participation of the state budget, sponsors and the private sector, especially for low-income families and educational institutions. Introducing a subsidy mechanism for low-income families and educational institutions. Introducing a technical audit and monitoring system: Introducing a system for annual state control of the availability of protective equipment and its expiration date in schools, kindergartens, hospitals and large enterprises. Conducting mandatory training and evacuation exercises in schools, neighborhoods and workplaces every quarter.

Conclusion. This study deeply studied the level of provision of the population with personal and collective means of protection, the state of the existing infrastructure, the effectiveness of information and educational work, and the effectiveness of financial and organizational systems in the Republic of Uzbekistan. The results showed the need for systematic and deep reforms to increase the population's preparedness for emergencies.

Key findings: A large part of the population does not have personal protective equipment or does not have the skills to use it properly. This situation is associated with a weak safety culture. The infrastructure of public safety equipment and facilities is absent in many regions, or the existing ones have become outdated and ineffective. Safety training is not systematically organized in educational institutions, enterprises and neighborhoods, and the existing training often has a formalistic character. The stock and logistics system of protective equipment used in emergency situations is not centralized, and the financing mechanism has not been clearly established. Although there are positive local experiences, they have not been widely popularized and systematized. In general, the issue of effectively providing the population with personal and collective protective equipment requires not only a technical or financial, but also a socio-cultural approach. By improving the safety culture, modernizing the infrastructure, and strengthening systematic preparedness, the level of protection of the population in emergency situations can be radically increased.

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