

International Experience in Overcoming the Consequences of the Chernobyl Catastrophe as a Mechanism for Protecting the Innovative "Belt and Road" Project

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Abstract

The article points out the importance of the innovative "Belt and Road" project aimed at developing infrastructure and international economic ties. It is indicated that due to the infrastructure's exposure to high risks of natural and man-made disasters, one of the tasks of the Shanghai Cooperation Organization is to provide mutual assistance in preventing emergency situations and eliminating their consequences. It is proposed to use the experience of joint activities of the Union State of Belarus and Russia, and other international organizations in eliminating the consequences of the Chernobyl Nuclear Power Plant accident to improve the international mechanism for protecting infrastructure within the framework of the "Belt and Road" project.

Keywords

infrastructure protection, economic ties, natural and manmade risks, international cooperation, disaster relief

The "One Belt, One Road" initiative (hereinafter referred to as BRI), announced in 2013 by the government of the People's Republic of China, is one of the largest infrastructure and innovation projects in history, covering more than 68 countries and aimed at developing infrastructure (railways, highways, ports, energy), trade, logistics, and economic ties between European and Asian countries. The development and strengthening of the "One Belt, One Road" project is facilitated by the rapid expansion of the Shanghai Cooperation Organization (hereinafter referred to as the SCO), through the creation of a platform for synergy in the economy, infrastructure, and security.

Firstly, the basic principles of the SCO, known as the "Shanghai Spirit" (mutual trust, equality, joint development), fundamentally coincide with the principles of the BRI. This allows SCO member countries to integrate their development strategies with the BRI, accelerating project implementation. Secondly, the SCO stimulates the construction of infrastructure for the BRI: gas pipelines, tunnels, railways, highways, etc.

Thirdly, the SCO contributes to geopolitical stability for the BRI, protecting projects from risks (terrorism, interstate and intrastate conflicts) by creating a unified system for responding to threats in Eurasia.

At the time of its establishment in 2001, the SCO included six states: the Republic of Kazakhstan, the People's Republic of China, the Kyrgyz Republic, the Russian Federation, the Republic of Tajikistan, and the Republic of Uzbekistan. These countries laid the foundation for multilateral cooperation in the fields of security, economy, and humanitarian ties in the Eurasian region. In 2017, the Republic of India and the Islamic Republic of Pakistan

became full members. The accession of these states not only increased the organization's territorial and demographic parameters but also significantly enhanced its geopolitical importance, turning the SCO into the world's largest regional association by population (over 40% of the world's population). In 2023, after completing all ratification procedures, the Islamic Republic of Iran officially became the ninth full member of the SCO. Another year later, on July 4, 2024, at the summit in Astana, the Republic of Belarus received the status of the tenth member of the organization, giving the organization a more pronounced European character [1].

Transport corridors connecting China and the European Union through the states of Central Asia play a key role in international trade. However, their infrastructure is subject to high risks of natural and man-made disasters due to the geographical, climatic, and geological features of the region, as well as the presence and construction of nuclear power plants integrated into the energy systems along the BRI corridors.

This necessitates the adoption of measures to form a protection for the project's infrastructure from natural and man-made disasters, which represents a set of measures aimed at preserving the operability of roads, bridges, power grids, communications, and other critically important objects

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that are elements of the infrastructure. Modern research by Gorbachev N.N., Savrasov K.K. emphasizes the high level of infrastructure vulnerability to natural and man-made disasters and the need to improve mechanisms for its protection [2].

According to Article 3 of the SCO Charter, signed on June 7, 2002, in St. Petersburg by the heads of the organization's founding states, one of the tasks of cooperation is "providing mutual assistance in preventing emergency situations of a natural and man-made nature and eliminating their consequences" [3, p. 4].

The main directions for implementing this task are:

- conducting physical security control measures, including the introduction of video surveillance systems, seismic sensors, etc.;
- insuring infrastructure projects through public and private mechanisms;
- developing a safety culture, primarily at nuclear facilities.

It should be noted that the effectiveness of this work depends not only on preventive measures but also on the ability to respond quickly to disasters, minimize their destructive consequences, and restore the functioning of critically important facilities in the shortest possible time. The coordination of the project's participating countries and the creation and operation of joint interstate emergency response centers are also important.

In this context, it is advisable to study and use the experience of the Union State of the Republic of Belarus and the Russian Federation in eliminating the consequences of the Chernobyl Nuclear Power Plant accident (hereinafter referred to as ChNPP), which resulted in the contamination of approximately 50 thousand square kilometers of territory in Belarus and Russia. In the early years after the collapse of the USSR, solving the problems caused by the consequences of the accident became one of the main directions of interaction between the Russian Federation and the Republic of Belarus [4]. In 1993, the Government of the Russian Federation and the Council of Ministers of the Republic of Belarus signed an intergovernmental Agreement on cooperation and mutual assistance in preventing major accidents, natural disasters, and eliminating their consequences. The document defined the main directions of joint actions of the two states on issues of radiation protection and safety:

- creation of an operational warning system for emergency situations;
- standardization of health assessment procedures, creation of a unified register of public health;
- development of interactive information and expert decision-making systems for introducing effective protective measures in agriculture in the contaminated territories of both states;
- joint development of approaches to determining living conditions in contaminated territories and control levels of radionuclide content in agricultural products;
- organization of treatment for severe forms of diseases associated with radiation exposure in medical institutions of the two states;

– exchange of instruments for organizing a system for monitoring radionuclide content in farm animals and other developed technical means;

– development of a methodology for comprehensive assessment of the effectiveness of protective measures for the rehabilitation of contaminated territories [5, p. 254].

In order to unite and coordinate the efforts of the two countries in the field of eliminating the consequences of the Chernobyl accident, the Supreme Council of the Community of Russia and Belarus adopted decision No. 6 "On joint actions to minimize and overcome the consequences of the Chernobyl disaster" dated June 22, 1996 [5, p. 81]. The document recognizes documents certifying participation in the work to eliminate the consequences of the Chernobyl accident, the presence of radiation sickness and disability associated with the Chernobyl disaster as valid on the territories of their states. In order to accumulate material and financial resources intended for carrying out measures to overcome the consequences of the accident in the form of voluntary donations from citizens, enterprises, and institutions of the two states, as well as third countries, the issue of establishing a joint "Chernobyl" fund was raised.

Joint activities to overcome the consequences of the accident continued to develop in all subsequent bilateral integration projects. In 1997, a scientific advisory council was established under the Commission of the Parliamentary Assembly of the Union of Belarus and Russia on Natural Resources, Ecology, and Environmental Protection, which began developing the first Program of joint activities to overcome the consequences of the Chernobyl disaster within the framework of the Union of Belarus and Russia for 1998-2000.

According to Art. 17 of the Action Program for implementing the Treaty on the Creation of the Union State "...joint actions in the field of environmental safety, prevention of natural and man-made disasters and elimination of their consequences, including the consequences of the Chernobyl Nuclear Power Plant accident, are within the joint jurisdiction of the Union State and the participating states [5, p. 82]".

During the period 1998-2022, five programs of joint activities aimed at eliminating the consequences of the Chernobyl accident were successfully implemented within the framework of the Union State. The overall goal of the programs is to form a unified policy of the two states to create conditions for safe life activities of the population in radioactively contaminated territories and ensure their implementation [5, pp. 82-84].

Initially, the Russian Federation and the Republic of Belarus formed independent systems of regulatory and legal regulation of work to overcome the consequences of the Chernobyl disaster. The difference in approaches, terminological and conceptual frameworks, and mechanisms for solving problems in the healthcare, social, and economic spheres caused difficulties in planning joint projects and hindered the exchange of experience in solving this problem. Subsequently, within the framework of the Union State, unified criteria were developed for the comparative analysis of forecast and current data characterizing the consequences of the Chernobyl accident, and the main regulatory and methodological documents regulating a unified system for

providing specialized care to citizens of Belarus and Russia exposed to radiation were developed.

The next direction of joint activity of the Union State was the creation of the material and technical base of a unified system for overcoming the consequences of the accident:

- reconstruction of the diagnostic and therapy clinic at the All-Russian Center for Emergency and Radiation Medicine of the EMERCOM of Russia was carried out;

- an experimental production facility was put into operation at the Skidel (Grodno region) medical preparations plant to provide medicines to the population of the areas affected by radiation;

- construction of a specialized radiology dispensary in Gomel and the Medical Radiological Center of the Russian Academy of Medical Sciences (Obninsk) was completed to provide medical assistance to the affected population;

- specialized organizations responsible for radiological monitoring and radiation control, as well as enterprises of the agro-industrial complex, were equipped with modern equipment (dosimeters, radiometers, etc.) [5, pp. 81-85].

A special area of joint activity between Russia and Belarus was the creation of a Unified Chernobyl Register for all categories of persons exposed to radiation. By 2010, within the framework of the next Union State program, unified protocols for information exchange between the Russian State Medical and Dosimetric Register and the state register of the Republic of Belarus, as well as unified data collection protocols, were developed. The systematic maintenance and development of the Unified Chernobyl Register made it possible to clarify statistical data for the regions of the two countries, thereby providing the opportunity to quickly obtain concrete results for strategic management decisions by the governments and interested departments of the two countries within the framework of the Union State.

The humanitarian aspect of the disaster also attracted the attention of the Union State. In 2004, the creation of the Russian-Belarusian Information Center was initiated, responsible for scientific and informational support of joint actions to overcome the consequences of the Chernobyl accident. The center's specialists prepared a unified information base of methods for socio-psychological rehabilitation and adaptation of those affected by the Chernobyl accident.

It should be noted that the elimination of the consequences of the Chernobyl accident was not limited to the activities of the Union State. For the purpose of a more in-depth study of the environmental, medical, and economic aspects of the disaster and developing proposals for improving measures to overcome its consequences, the Chernobyl Forum was established in 2003 at the initiative of the International Atomic Energy Agency (IAEA). To achieve the forum's goal, a working group of expert scientists representing various international organizations was formed: the United Nations (UN), the World Health Organization (WHO), the International Atomic Energy Agency (IAEA), the Food and Agriculture Organization (FAO), the International Commission on Radiological Protection (ICRP), etc.

The result of the scientific research conducted by the expert group was recommendations to the governments of Belarus, the Russian Federation, and Ukraine on special health protection programs, environmental remediation,

socio-economic policy, and scientific research [6]. The forum's recommendations noted that international efforts to eliminate the consequences of a disaster can only be effective if they "...support, expand relevant activities, and serve as leverage for change within the framework of significantly larger-scale efforts undertaken by local and state authorities" [6, p. 44].

The experience of eliminating the consequences of the Chernobyl Nuclear Power Plant accident provides valuable lessons that can be adapted to protect the critical infrastructure of the "One Belt, One Road" project from natural and man-made disasters. The lessons of Chernobyl focus on developing a safety culture, organized work on disaster relief through international cooperation, the development of intergovernmental regulatory response protocols in emergency situations, the formation of a material and technical base for a system to restore damaged critical facilities, and scientific and informational support for joint actions.

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