A RESILIENCE BASED APPROACH TO CRITICAL INFRASTRUCTURE AND SOCIAL SAFETY ISSUES

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ABSTRACT: The critical infrastructure is by definition the operation, knowledge and the situation that has in a given moment the vital effects on the level of the state. Each risk, which could seriously endanger the functioning of a critical infrastructure, can lead to terrible consequences from the point of view of the national security, economy, social security and wealth, public health, welfare and human rights. With this contribution, we want to present the domain of risks for the critical infrastructure of Republic of Slovenia, because in this field can

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the unexpected and unforeseen events seriously endanger the national security. Furthermore, such events can endanger already established rights of citizens of Republic of Slovenia and also basic human rights and liberties. The duty of subjects of leading and operating of Republic of Slovenia is to assure the existence and development of sovereignty of the State and a long-term security for all citizens. Critical infrastructure is unavoidable and is essential for societal safety. The success of organizations, populations and society that are part of the infrastructure function relies in the unconditional reliability and usefulness.

KEYWORDS: Critical infrastructure, Republic of Slovenia, risks, societal safety

1. Introduction

Critical infrastructure (or critical national infrastructure – CNI in the UK) is a term used by governments to describe assets that are essential for the functioning of a society and economy. Most commonly associated with the term are facilities for heating (e.g. natural gas), agriculture, food production and distribution, water supply (drinking water), public health (hospitals), transportation systems (railway network, airports etc.), security services (police, military), electricity generation, renewable energy, telecommunication, economic sector (https://en.wikipedia.org/wiki/Critical_infrastructure). Protecting critical infrastructure is essential to the nation's security, public health and safety, economic vitality and way of life.

Critical infrastructure protection is a concern across all sectors, including transportation, utilities and public works (https://gdit.com/enterprise-information-systems/it-infrastructure-build-out-and-modernization/wireless/wireless-capabilities/critical-infrastructure/). In general, the protection of critical infrastructures should cover all activities, which shall ensure their functionality, continuity and integrity in order to prevent every type of threats, risks or weaknesses including cyber-attacks affecting the proper functioning (Berg, 2017). The article deals with general problems of critical infrastructure in the broadest concept, from the viewpoint of its impacts in the Republic of Slovenia and from the viewpoint of social issues that are often crucial regarding the question of safety and security.

2. The critical infrastructure in the Republic of Slovenia

The Republic of Slovenia's critical infrastructure of national importance includes capabilities and services that are of key importance to the state, and whose dysfunction or destruction would have a serious and significant impact on national security, economy, essential functions of society, health, security and protection as well as social welfare. With the decision reached in April 2014, the Government of the Republic of Slovenia identified the Republic of Slovenia's critical infrastructure of national importance. On this basis and in line with basic and sector-related criteria used for identifying critical infrastructure of national importance, the ministries and the Bank of Slovenia identified and provided justification for the existing critical infrastructure of the Republic of Slovenia. The Government's decision imposed an obligation

on holders of critical infrastructure of national importance to develop appropriate protection measures (http://www.mo.gov.si/en/areas_of_work/critical_infrastructure/). The government of the Republic of Slovenia defined that state critical infrastructure comprises capacities and services that are of key (vital) importance for the state and interuption of their functions or their destruction would have significant impact with serious consequences for national security, economy, key social functions, health, security and protection and on social welfare as a whole. The first Intergovernmental coordination group for harmonization of preparations for critical infrastructure protection, which functions under the umbrella of the Ministry of Defence, was established by the Government of the Republic of Slovenia in 2006. The Group was responsible for the analysis of major organizational and subject-matter aspects of the research project titled Definition and protection of critical infrastructure of the Republic of Slovenia, which was led by the Defence Research Centre of the Faculty of Social Studies at the request of the Ministry of Defence. The group appointed in 2010 was mainly tasked with fulfilment of commitments deriving from the EU Council Directive on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection. The tasks of the newly established group in 2012 are defined in the Government's decision and refer in particular to:

- Harmonization and coordination of preparations and tasks regarding protection of critical infrastructure in the Republic of Slovenia,

- Identification of critical infrastructure of national importance to the Republic of Slovenia (one of the major tasks),
- Development of measures and procedures for protection of critical infrastructure under consideration of NATO and EU guidelines and positions,
- Drafting proposals regarding bodies and organizations in charge of protection measures for critical infrastructure of national importance to the Republic of Slovenia (http://www.mo.gov.si/en/areas_of_work/critical_infrastructure/intergovernmental_coordination_group_for_harmonization_of_preparations_for_critical_infrastructure_protection/).

As in other countries, in the Republic of Slovenia, critical infrastructure is one of the basic obligations of the state for security and the implementation of infrastructure activities for the benefit of all citizens. In particular, the question of social responsibility of the functioning of organizations that operate within the critical infrastructure is something that both stakeholders need to be aware of both at the state level and at the level of organization management. Substantial societal issues related to critical infrastructure will be presented below.

3. The societal issues

Demographic, natural, social, cultural, technological, economic aspects are always the largest indicator of each country and

infrastructure, which works primarily for the benefit of citizens, and through the provision of services is an inevitable and urgently needed activity, which must function smoothly in each country. That is why the issue of social responsibility and issues related to social issues is one of the essential ones that need to be answered for the effective and efficient operation of critical infrastructure organizations. The very question of the relationship that, in addition to the regular implementation of infrastructure services, can be recorded in everyday life, is one of the areas that we expose in the sense of social issues related to the functioning of critical infrastructure. Furthermore, apart from the attitude towards the regular implementation of infrastructure activities, one of the elements is the question of the moral and ethical functioning of organizations that affect the personal lives of citizens. In addition, the issue of the economic sphere is joined by social issues, especially from the point of view of the potential of citizens in the direction of accessibility of critical infrastructure.

The forms of social issues that we attach to critical infrastructure are:

a) Social stratification (**Social stratification** is a kind of social differentiation whereby a society groups people into socioeconomic strata, based upon their occupation and income, wealth and social status, or derived power (social and political). As such, stratification is the relative social position of persons within a social group, category, geographic region, or social unit

(https://en.wikipedia.org/wiki/Social_stratification). The importance of this field is, in particular, that the distinction between social classes in the definition and the meaning of critical infrastructure must not and cannot be divided or categorized according to social classes, but that critical infrastructure functions must be guaranteed regardless of which individual citizen belongs to the social class).

b) Economic issues (The economic issue is compatible with the functioning of a critical infrastructure to the extent that the development of each region or the whole country can be affected by the development of organizations operating within the infrastructure. The integrity and completeness of the operation is possible by the institutions at that time or at the moment. is to a large extent optimal when we are witnessing a high level of economic development, which also shows a higher level of development of critical infrastructure)

c) Public health (Public health is one of the areas of critical infrastructure, which largely reflects the development of the state and encourages citizens to increase their working capacity to work and produce products and services. By contributing to the development of a critical infrastructure in the field of health services, countries can positively be positive for their citizens when they are aware and invest in the

development of the functioning of health care institutions. In this way, the importance of public health and the well-being of the nation is being built).

d) Education (Education and training can also be taken as part of encouraging the development of citizens as part of the infrastructure that promotes the content of each individual state. Here, it builds and encourages innovation and ideas that can be managed not only by existing organizations, but primarily by new - future organizations that will build a positive future for citizens).

e) Work and occupation (Like other dimensions, the labor market is also one of the areas that can be encouraged by critical infrastructure through the operation, insofar as size and activity encourage employment and expansion of activities to an extent that ensures smooth functioning of the state).

In addition to the aforementioned or listed factors, of course, in the context of understanding social issues that relate to critical infrastructure, they coincide further with the issue of social inequality, equity - especially when we are confronted with the uneven distribution of access to critical infrastructure services, age and life cycle issues - when the development of a particular work critical infrastructure offers more opportunities for a particular target population linked to a demographic factor of age than others, etc.

The dimensions of social issues also include:

- - people,
- - the organizational structure,
- - values and
- - knowledge.

The connectivity of people, organization, values and knowledge forms an important field of organization of organizations in the direction of progress and development. One of the fundamental issues, in addition to highlighting the social dimension of critical infrastructure, is undoubtedly the issue of security, which is increasingly relevant and theoretically and practically taken into account the topic of today's time. Therefore, one of the chapters is also intended to highlight the fundamental characteristics of security issues in terms of critical infrastructure.

4. The safety issues

The definitions of terms connected with security and safety are: 1. Each infrastructure belonging to the critical infrastructure and it alone is a multistage system in which among individual stages in both directions they run material, finance, information and decision flows. 2. The disasters for partial infrastructures and critical infrastructure are the phenomena that caused damages and losses. They include phenomena belonging to the category „All Hazards Approach" and specific phenomena connected with humans and their behaviour that do harm to the critical infrastructure owners, operators and that influence the fulfilment of tasks for which they were established (insufficient co-ordination of activities – organising accidents,

failure of outsourcing activities, intent attacks etc.). 3. The infrastructure vulnerability is a predisposition of infrastructure (its protected assets) to harm / damage origination. 4. The infrastructure resilience is an infrastructure capability to overcome impacts of a given disaster. 5. The infrastructure risk is a probable size of losses, harms and detriment caused by a disaster with size of normative hazard (mostly design disaster) on infrastructure and public assets or subsystems rescheduled on selected time unit (e.g.1 year), site unit (e.g. 1 km2) and on basic assets of owners and operators of infrastructure. 6. The infrastructure security is a situation / condition at which the probability of infrastructure assets´ harms, damages and losses is acceptable (it is almost sure that harms, damages and losses cannot origin). 7. The infrastructure safety is a set of measures and activities for ensuring the security and sustainable development of infrastructure, its assets and public assets. 8. The infrastructure security management is a planning, organisation, allocation of resources, humans and tasks with aim to reach demanded security level of a supply chain. 9. The infrastructure safety management is a planning, organisation, allocation of resources, humans and tasks with aim to reach demanded safety level of infrastructure and its vicinity. 10. The infrastructure safety engineering is a set of engineering measures and activities by which the infrastructure safety is ensured in real conditions of a given site (Prochazkova et al., 2017).

At infrastructure safety management and whole critical infrastructure safety management we need to concentrate to critical items, and therefore, it is necessary to judge the criticality

of individual items. The assessment of criticality of individual systems (sectors) of infrastructures and the whole critical infrastructure is not trivial matter because under different conditions the sectors and the whole have a different role - active, reactive, critical or damping (not additive); e.g. the existence of several variants of electricity supply to one site decreases the energy infrastructure criticality but it increases expenses etc. (Prochazkova et al., 2017).

5. The resilience of critical infrastructure and Conclusion

If we want to live in a world that will, on the one hand, provide us with opportunities for immense research and deepening of knowledge, we must primarily want to have well organized key issues related to the field of society and social mechanisms. Despite the advancement of technology and the development of robotics, which, in large respects, confuses humans as an individual, we are always returning to an individual who, together with the social environment, can create not only a knowledge society, not just a society of change, but above all a society of a healthy environment that can lead in even better solutions and implementation of ideas. Critical infrastructure, which is initially presented with the basic terminology, which below presents its place in the selected country, is definitely interconnected and must be connected with the mechanisms of society. Therefore, in the central part, key issues of social elements are exposed, which should be elementally managed by organizations that operate under the aegis of critical infrastructure in progress

and development and stability of operation. It is also one of the key dimensions of today's security of society, which, to a large extent at the critical infrastructure level, is inevitable if we want to talk about the normal functioning of society. We want to conclude our contribution with the starting point and think that the critical infrastructure is part of every individual, each group, each region, of each country. The functioning and the structure, which must be covered primarily in the domain of the state, is a duty and a smoothly functioning obligation that provides citizens with services that are required by everyone in terms of social dimension, personal needs and technological baseline. Therefore, the reflection and incentive of this contribution is directed towards more research in the field of connecting social dimensions (human, organization, values and knowledge) with a dimension of security, which also complements or improves the possibilities for the smooth functioning of critical infrastructure organizations.

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