

**DISASTER RISK MANAGEMENT, SITUATIONS AND PERSPECTIVES IN REPUBLIC OF MACEDONIA****УПРАВУВАЊЕ СО РИЗИЦИ ОД КАТАСТРОФИ, СОСТОЈБИ И ПЕРСПЕКТИВИ ВО РЕПУБЛИКА МАКЕДОНИЈА**

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**Апстракт:** Денешниот живот се карактеризира со голема динамика и изразена глобализација во комуникацијата и движењето на луѓето низ целиот свет. Брзиот техничко-технолошки развој и примената на високите научи достигнувања, исклучително позитивно влијаеа на квалитетот на животниот стандард во поголемиот дел од светот. Но, во исто време, како никогаш порано, современата цивилизација се соочува и со голем број на закани и ризици по безбедноста, кои сè почесто го загрозуваат животот и здравјето на луѓето и предизвикуваат огромни последици по животната средина и природните богатства. Глобалните безбедносни заедници (ООН, ОБСЕ, ЕУ, НАТО), како и државите поединечно, остваруваат интензивна соработка заради идентификување на глобалните ризици и преземаат голем број на заеднички иницијативи и активности за нивно превенирање и намалување, со единствена цел, да се избегнат големи катастрофи и страдања на современата човечка цивилизација.

Живееме во период (Нуого 2005-2015 и Рамката од Сендаи за намалување на ризици од катастрофи 2015-2030) кој ООН, како најмасовна светска организација го посветуваат на јакнење на отпорноста на нациите и заедниците наспроти се почестите појави на различни несреќи и катастрофи. Република Македонија во континуитет ги следи овие иницијативи и ги превзема сите потребни активности за воспоставување и одржување на организиран и институционално воден систем за следење, проценување и управување со сите актуелни и потенцијални ризици по нејзината безбедност и безбедноста на своите граѓани.

Клучни зборови: безбедност, ризик, управување со ризик, криза, управување со ризик од катастрофа.

**Abstract:** Today's life is characterized by large dynamics and expressed globalization in communication and worldwide movement of people. Rapid technological development and application of highly technical achievements, positively impact the quality of life in most part of the world. But, at the same time, like never before, modern civilization faces a number of threats and security risks that increasingly threaten the lives and health of people and cause huge consequences for the environment and natural resources. The global security community (UN, EU, NATO, OSCE) and the states individually, undertake intensive cooperation for identifying global risks and raises a number of joint initiatives and activities for their prevention and mitigation, with the unique purpose to avoid major disasters and suffering of modern human civilization.

We live at the period (Hyogo 2005-2015 and Sendai Framework for DRR 2015-2030) that the United Nations, as the most massive worldwide organization devoted to strengthening the resilience of nations and communities against increasingly frequent occurrences of various disasters. Republic of Macedonia continuously monitor these initiatives and takes all necessary actions to establish and maintain an organized and institutionally based system for monitoring and management of all current and potential risks for their safety and the safety of its citizens.

**Keywords:** security, risk, risk management, disaster, disaster risk management.

## **Introduction**

Republic of Macedonia with its geographical and other features has its own specifics that determining influence of its natural susceptibility to certain risks that are associated with relief, climate, hydrographic, vegetation and other features inherent in its territory. Of course, these features represent only part of the "country risk profile" which in a different correlation with global influences and everyday human activities generate certain situations and conditions that pose a risk to human life, material, natural and cultural goods and can grow into disaster risk for a part or for the whole country territory.

For the purpose of systematic organizing and managing all risks Republic of Macedonia since the beginning of its independence, establish and maintain their own system and implementing the necessary measures and activities for prevention and operative management of potential risks, and building adequate capacity. Throughout that period continuously implemented some reforms and restructuring of the national defense and security system and bringing its closer to the standards of NATO and the EU as a national long-term commitment.

The legal, organizational and institutional framework of Risk management and Disaster risk reduction mechanisms in the country formally has been strengthened by establishing a Protection and rescue system and Crisis management system, and by establishment of two independent governmental institutions, the Protection and Rescue Directorate, in 2004 and the Crisis Management Center, in 2005.

Within much broader national system for Disaster Risk Management, certainly are involved and other state institutions that have different responsibilities, scientific and academic institutions, non-governmental organizations, national Red Cross organization, business sector, media and other sectors related to the disaster risk reduction. While internationally, there is fully cooperation within UNISDR- system and other systems for collective security collaboration.

This approach enables the construction of an integrated, efficient and effective national system for prevention, early warning, management and overcoming the consequences of natural and man-caused disasters and catastrophes, while ensuring functional unity of the state and local government and all stakeholders in the process the of disaster risk management.

This involves developing an adequate system structure (a network of institutions) and functional relationships that will ensure timely, systematic and coordinated response of all stakeholders involved in the National Disaster Risk Management System, which should be fully compatible and interoperable with international systems, ranging from terminology, functional and operating aspects.

### **The concept of “Risk”, “Disaster Risk”, and “Disaster Risk Management”**

The conditions and circumstances that make people constantly exposed and vulnerable to various dangerous situations or have a sense of uncertainty, many contributed several theorists in the field of security and beyond, to undertake research of the term “risk”, its defining and framing into the concept of security.

The general explanation of the term “risk” is that it is a possibility/probability of injury, causing damage or loss ... (given by Webster Dictionary),<sup>54</sup> where most likelihood and consequences associated with physical, technological or natural processes, according to whether and how they can be objectively determined (measured) through the process of risk assessment. Risk specifies something prospective and imaginary, and thus implies uncertainty.

In determining the term “risk”, there are evident trends to understand it exclusively as a technical term, or as expected and calculated/estimated result of an adverse event. This view, from the perspective of social science, is considered as a unacceptable, since it is essentially risk is subjective, i.e. subjectively experienced as part of the social sphere, and as such cannot be the only objective measure that will be expressed through quantitative indicators (number of deaths, destroyed or damaged buildings and other physical damage). According to Sjoberg,<sup>55</sup> the risk is pending a side event where is mostly a social construction.

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<sup>54</sup> <http://www.merriam-webster.com/dictionary/risk>.

<sup>55</sup> Sjoberg L.: Understanding the process and Consequences of risk perception, in Mosleh & R.A. Rari, 4th Conference on Probabilistic safety assessment and management, New York, 1984.

The perception of risk is considered as an important factor in determining the meaning of risk. In this sense, the theory developed two routes that are trying to answer the questions of risk, it is Psychometric model and Theory of culture. Under the first model, the risk is a subjective experience of the individual who is affected by a multitude of psychological, social and institutional factors. But the underlying problem that dominates in this model is how to measure the impact of these factors on the individual's perception. While through the "theory of culture", seeks to understand the impact of culture, habits, customs, or certain norms and values that are unique to a group or community, and the impact of all this on the individual / group perceptions of risk (Slovic).<sup>56</sup>

When it comes to that the perception of risk influences the way of its determination and conceptualizing, we should mention the so-called "public perception" and "realistic perception." Public perception is related to the understanding and perception of risk by the public (individuals, groups, etc.) and it's closer to informally understanding of risk. The real perception of the risks coming from the expert community, which sets out its views on scientific and methodological research set. Explaining the "real risks" is supported by the principles of objectivity, analytically and comprehensiveness This approach is more relevant for the Disasters Risks Management concept.

Broad analyzes and discussions that intense within the security studies from the end of last and the beginning of this century suggest that the concept of "threats and endangering" slowly disappears and loses its significance and increasingly being replaced by the term of "risk". This trend is associated with the expansion and deepening of the concept of security and the dominance of the so-called soft security which is related to non-classical threats, arising from the political, economic, social, environmental and related fields, and major natural disasters occurring around world.

When it comes to the terminological distinction between the meaning of the terms "threat" and "risk", both terms represent synonymous with insecurity. Taking into account some of the definitions indicating that "the threat is clearly expressed intent of injury, damage, etc." And risk "associated with the probability or possibility of consequences" can be concluded that their distinction should be require the dose or amount of uncertainty that occurs as a result.

This finding opens the question of how to measure this dose or amount of uncertainty! The concept of risk, viewed from two aspects, as technical and social category gives much greater opportunities for measuring or estimating the amount of uncertainty, through detailed analysis and evaluation of individual components or risk elements such as: hazard, vulnerability, exposure, capacity/resistance), and then, by the synthesis, to obtain an aggregate rating of the risk level, and dose of uncertainty which is associated with the particular risk.

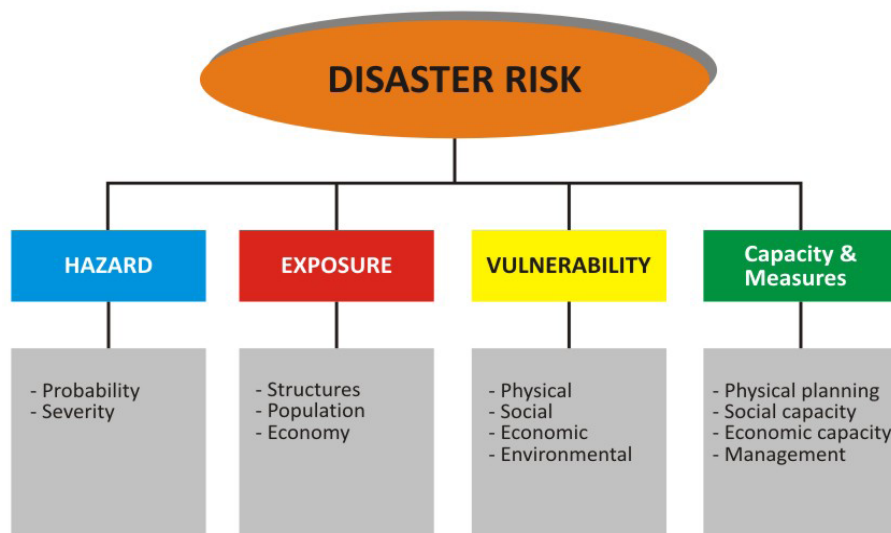
In general, this approach understands risk as a function of hazard, vulnerability, exposure, and resilience:

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<sup>56</sup> Slovic P.: The Perception of Risk, Earthscan, London 2000.

**Risk = f (hazard, vulnerability, exposure, resilience)**

Same determination as a “Disaster Risk” has been promoted by the global initiatives of the UN, within the framework of the International Strategy for Disaster Risks Reducing (ISDR)<sup>57</sup>. The same approach was presented in the conceptual framework of Davidson in 1997, later adopted by Bollin and Associates in 2003, where risk is seen as a set of hazard, exposure, vulnerability and measures related to capacity. The new element to be recorded refer to measures associated with capacity, which would later evolve the concept of resistance. The hazard is recognized with probability and severity of the hazard, the elements of exposure associated with the physical and built environment, economy, vulnerability including physical, socia, economic, environmental and the capacity and measures relating to urban planning, governance, social and economic capacity (Figure 1).



**Figure 1: Conceptual Framework for Disaster Risk Management, (Source: Davidson, 1997; Bollin and Associates, 2003.**

<sup>57</sup> <http://www.unisdr.org/>

By incorporating all these elements, the risk is placed on a broad basis, thus expanding its essential arising from a purely technical basis, and the concept of risk are striving to understand more complex. The basic assumption arising from complex concept of risk suggests that any activity in society is not immune to the risk, or that the risk can be fully eliminated. The risk can only be reduced to an acceptable level, which is defined in the security scale of the individuals, group, society, country, etc..

The complex understanding of risk refers to the need to manage it as a fundamental precondition for reducing uncertainty and avoiding unwanted losses of human lives and other goods. Comprehensive risk management is the foundation for an effective Disaster risk management and Crisis management system.

### **Disaster Risk Management**

Influenced by global initiatives during the past years, there were changes in access of “disaster response and elimination of consequences” to access the “risk management and risk reduction.” Changes in perception were mainly related to the change of approach that focused on hazard as the main cause of the risk only by the physical protection of hazard. Later, risk management, gives greater attention to the vulnerability of communities and individuals, preparedness and early warning capacities, increase awareness and build strategies for disaster risk management.

General imperative the risk management concept that develops and promotes within the global initiative through a “Hyogo Framework for Action 2005-2015” focuses on “building resilience”, individual and collective/social. This does not mean ignoring the reasons (risks), but rather providing increased awareness of them and taking comprehensive preparatory actions. In the most general framework, activities that is undertaken within the risk management concept, is applied through the following stages:

- *Risk Identification*: is the first step in risk management. Risks associated with potential events and situations that occur and cause certain unwanted, consequences and problems. Therefore risk identification usually starts from the source of the problem (hazard);
- *Analysis of the source*: source of risk for a particular element at risk (system, individual, community, organization, facility, etc.) can be external or internal. The first one is related to the environment (risk environment), or present hazards; the second are internal characteristics of the exposed element (vulnerability and resilience);
- *Problem analysis*: includes process by which is generalized the potential problem that may occur as a result of the identified risks and its source;
- *Risk assessment*: when the hazard/danger is identified, further step is to assess the probability of their occurrence and predict the severity of the consequences of its occurrence. The first moment, the probability for some risks that occur more frequently can be determined, but the less likely risks (eg earthquake risk) it is difficult, but the assessment of the seriousness of the consequences or damages (expected) is more easily enforceable, if there is sufficient quantified data for exposed environment near the source of danger;
- *Risk Treatment*: through the established risk management system (local, national, international) are implemented appropriate policies and strategies for the treatment of identified risk. The most commonly used strategies for this purpose are: risk transfer strategy, risk avoidance strategy, risk mitigation strategy, strategy for acceptable risk and others measures and activities.

The aforementioned elements inherent in risk management are fully applicable when it comes to disaster risks management. The term "disaster" refers to major events and accidents that drastically disturb the life course and disturb the social, economic and security stability in a wider territorial unit on the local, national or international level.

Within the concept of disaster management and disaster risk management, they are reviewed and studied by several aspects, such as:

- *In terms of the source*, i.e. the risk, where it comes to disasters caused by natural phenomena, from technological accidents, man-caused disaster etc.;
- *In terms of consequences*: victims, degree of other loss, damage, duration, etc. (catastrophic, cataclysmic, etc.);
- *In terms of the development* of the disaster and the possibility of its multiplication (which needs interventions from different systems, services and capacities);
- *In terms of the level of risk*, the intensity and the affected area (disaster from local, regional, national scale).

Broadly acceptable determination of disaster risk is given in the definition of United Nations International Strategy for disasters risks reduction (UNISDR) as “serious disruption of the functioning of a community or society involving human, economic, material losses and impacts, which exceed the ability of fragile community or society to cope using its own resources “. In a commentary on this definition states that “disasters are often described as the result of a combination of: exposure to particular hazard, present conditions of vulnerability, and sufficient of capacity or measures to reduce or cope with potential negative consequences”<sup>58</sup>.

### **Legal, organizational and institutional framework of Disaster Risk Management in the Republic of Macedonia**

Formal legal, organizational and institutional framework for disasters risks management in the Republic of Macedonia are implement by establishment of the Crisis management system that is managed through government management bodies, such as the Assessment Group and Steering Committee. While the law on crisis management and the law on protection and rescue establish two separate government agencies that have responsibilities in this segment. Crisis management as an activity of high public interest is established for prevention, early warning and deal with any risks that may cause crisis and crisis situation in the country and to acquire dimensions of disasters.

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<sup>58</sup> UNISDR Terminology on Disaster Risk Reduction, UNISDR Geneva, Switzerland 2009, pg. 9.



The starting basis for the regulation of this area is located in the National Concept for Security and Defense, which present views and provides the basic recommendations on how should functioning the crisis management in Republic Macedonia and the Law on Crisis Management is the basis for a complete implementation of the crisis management system.

### **Legal framework (*Crisis Management Law*)**

With the continuation of reforms in the defense and security system, in 2005 was adopted a Crisis management law,<sup>59</sup> that is basis for regulation the crisis management system in the country. This law opens the possibility of declaring a “crisis situation in the country” as a new category, despite constitutional categories of war and emergency situation. Full legislative powers and mechanisms of action in case of crisis situation declared, this law give to the government. “Crisis situation” in the law is defined as a condition caused by risks and hazards that can threaten property, health and life of humans and animals and the safety of the country, for its prevention and/or handling is required to use a larger volume of resources.

Article 21 of the Crisis Management Law provides the basic legal responsibilities of the Crisis Management Center. Regarding the topic of this text, special importance has responsibility for “preparation and updating of a unique assessment of all risks and hazards to the security of the Republic of Macedonia”. Further regulation of the manner and process of risk assessment preparation is provided by the Decree on “Methodology for risk assessment preparation”<sup>60</sup>.

This Decree terminologically and structurally meets all standards for monitoring and risk assessment in accordance with the norms and standards which directs UNISDR and international standards in this field, and as such is the basis for introducing the concept of Disasters Risk Management through existing mechanisms of Crisis management system in the country.

This approach provides Risk Assessment process that will contain integrated observations, conclusions and recommendations for all risks and hazards covered by the law (multirisk approach), which will be taken by the competent authorities in a coordinated process of inter-ministerial communication and cooperation (multisectoral approach). The composition of the government bodies that manage the Crisis Management system (Steering Committee and Assessment Group) also provides complete participatory and inclusive approach by the participation of key state institutions in the process of proposing and adopting the assessment relating to the full range of risks and dangers.

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<sup>59</sup> UNISDR Terminology on Disaster Risk Reduction, UNISDR Geneva, Switzerland 2009, pg. 9.

<sup>60</sup> Official Gazette of the Republic Macedonia, No.13/2011.

With this organizational and institutional structure of bodies and organs within the national crisis management system, in the country is created conditions and opportunities for the implementation of "Integrated Risk Management" concept, which bases on the principles of organizational set system for inter-institutional communication, coordination and exchange of information, regarding to actual and potential risk.

### **Organizational and functional framework of Disaster Risk Management**

In the context of this text, organizational and operational framework for the disasters risks management in the country will be presented by the existing model for crisis management. The model of crisis management in the country, normatively, organizational and functional is established as a system, which indicates that it is a complex structure of bodies that undertake the necessary measures and activities in different situations and conditions (emergency, crisis, disaster situations).

Due to the smooth functioning of the crisis management in the country, propose decisions and provide continuous consultations, coordination, time reaction, efficiency and appropriate use of available resources in the event of a crisis, according to the Crisis Management Law, the following bodies are established: Governmental bodies (Steering Committee and Assessment Group), Crisis Management Center, Regional crisis management centers, Headquarters and Regional headquarters.

- **Steering Committee:** The Steering Committee is the highest body of the Government to which the Law entrusts management of the crisis management system and coordination between the entities of the system. It consists of the ministers of ministries for: Interior, Health, Transport and communication, Defence, Foreign Affairs and the Head of the Assessment Group. In the work of the steering committee, the legislator envisaged the participation of a representative of the Parliamentary Committee on Defense and Security and a representative of the State President.

- **Assessment Group:** Assessment Group is also a body of government which continuously assessing risks and threats to the country security and proposes measures and activities for their prevention, early warning and crisis management situation. Assessment Group is composed by the heads of the Public Security Bureau, the Directorate for Security and Counter-Intelligence Agency, directors and deputy directors of the Crisis Management Center and the Directorate for Protection and Rescue, Deputy Chief of the Army General Staff, head of the Security and Intelligence from Ministry of Defence. If necessary in the work of the Assessment Group calling and other representatives of the state bodies, municipalities and the City of Skopje and experts in the given field.

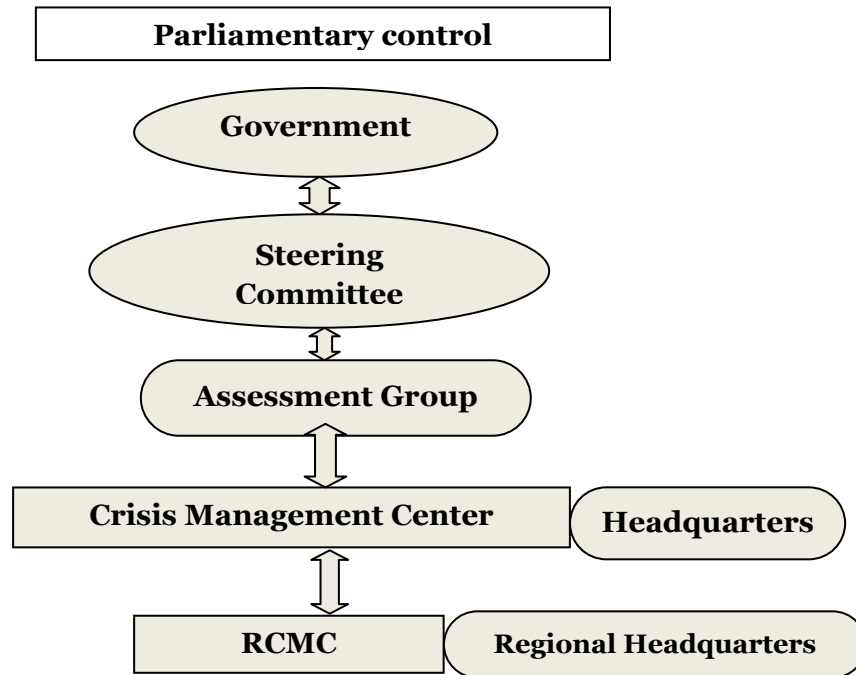
- **Crisis Management Center**<sup>61</sup> : On crisis management law basis within the crisis management system has been established an independent state body, as a legal entity, with position of Directorate. The name of this is Crisis Management Center, which is responsible for providing the necessary administrative, organizational and expert support to the bodies and entities in the crisis management system. Its main responsibilities are set out in Article 21 of the law:

- Ensuring continuity of inter-departmental and international cooperation, consultation and coordination in crisis management;
- Preparation and updating of a unique assessment of all risks and hazard to the security of the Republic of Macedonia;
- Proposing measures and activities for resolving the crisis situation, and Perform other duties prescribed by law.

The Crisis Management law provides establishment of the Headquarters at the Crisis Management Centre, as operational and expert body which manages the activities of prevention and management of crisis situations, Regional crisis management centers (RCMC - Total 35) and Regional Headquarters, as their operational bodies. The organizational and functional structure of the Crisis management system in Republic of Macedonia, is presented on the Figure 2:

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<sup>61</sup> <http://cuk.gov.mk/mk/>.



**Figure 2: Organizational and functional structure of the Crisis management system in Republic of Macedonia (Source: Crisis Management Center)**

### **National Platform for Disaster Risk Reduction**

In the spirit of the International Strategy for disasters risks reduction of the United Nations (UN ISDR)<sup>62</sup>, the general Guidelines of the Hyogo Framework for Action (2005-2015) and the new Framework of Sendai (2015-2030), the Crisis Management Center in cooperation with relevant state and other entities, starting from 2007 onwards, implemented the necessary actions to establish a National platform for disaster risk reduction (NP for DRR).

National Platform in the Republic of Macedonia is not established as a separate system for disaster risk reduction, but is established as support to existing legal systems for crisis management and protection and rescue. In that sense NP is a broad framework of enhanced inter-ministerial co-operation and consultation forum for the exchange of information and experiences among all stakeholders in the country, aimed at preventing and reducing the risks and represents a multisectoral mechanism that provides and advice on issues in this area .

The expected benefits of the National platform establishment, as a concept for disaster risks reduction, by investing in a systematic effort to analyze and manage the causes of them, refer to:

1. Reduce exposure to disaster risks, by reducing vulnerability of individuals and communities, responsible management of spatial planning and environment, improved preparedness for possible accidents etc.;
2. Incorporating an effective approach for disaster risk reduction policies, plans and programs for sustainable development at all levels;
3. Development and strengthening of institutions mechanisms and capacities, especially local for communities that can provide systematic contribution to building resilience to disasters.

Through the mechanisms of the National Platform is expected to strengthen the functional unity of the state government, local government, NGOs, academia and the business community aimed at providing advice and recommendations on appropriate measures to reduce the risks of disasters in the country. The activities of the National Platform are managed by existing management structures and bodies within the Crisis management system (Steering Committee and Assessment Group).

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<sup>62</sup> <http://www.unisdr.org>

## **Conclusion**

The Republic of Macedonia since its independence and onwards continuously take the necessary legal, organizational and institutional measures and activities in order to build and maintain a respectable and effective national system for managing existing and potential risks that can cause serious consequences for the lives of its citizens and cause material, economic, environmental and other damage.

With the implementation of major reforms in the defense and security sector in the period 2004-2005 was established new systems (crisis management and protection and rescue) and established new institutions (Crisis Management Center and the Directorate for Protection and Rescue) which make a significant step forward in building national capacities specialized for risk management and protection of the population, material, natural and cultural goods from damaging impacts of natural, technical and technological, man-made and other disasters.

Also continuously are implement the guidelines and recommendations of international organizations and institutions in the field of crisis management, civil protection and disasters risk management, in order to provide the required level of interoperability and compatibility in the case of joint activities and operations.

In perspective are evident the needs for further harmonization of certain legal, organizational and functional segments to improve the capacities and capabilities of the national system and the maintenance of the trend with international organizations where the Republic of Macedonia intends to fully integrate (EU and NATO).

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