Review paper

REGIONAL CIVIL PROTECTION DEVELOPMENT POLICIES

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Abstract:
The regional development of civil protection in the Republic of Croatia refers to the organization and operation of civil protection at the regional level (counties and the City of Zagreb) to ensure effective protection of citizens, property and the environment in the event of major accidents and disasters. The regional development of civil protection is crucial for strengthening the resilience of society to emergency situations, reducing the risks of disasters and ensuring a rapid and coordinated response in the event of crisis situations. Civil protection must be adapted to the new challenges (climate change, security challenges, natural hazards) with the primary aim of improving the organization, role and positioning of civil protection in the national security system and proactive disaster risk management. All units of regional self-government have adopted development plans in accordance with the Law on the System of Strategic Planning and Development Management of the Republic of Croatia. The development plan is a medium-term act of strategic planning aimed at determining the priority areas of development of the regional self-government units. The development plans within the framework of the presented strategic goals and measures showed, among other things, the status and development priorities of the civil protection system at the regional level.

Keywords: *Strategy, civil protection, development, regional administration, goals.*

1. Introduction remarks

This paper aims to present a comparative analysis of regional development plans, particularly in terms of linking development objectives according to the disaster risk management system matrix (planning, prevention, preparedness, response and recovery phase) to determine the direction of development in civil protection policies. The analysis will also identify which thematic areas the development objectives are focused on. In addition, it will analyse to what extent the regional development plans and major accident risk assessments are in line with the policy implementation priorities in the field of strengthening resilience to disaster risks set out in the National Development Strategy of the Republic of Croatia until 2030. In this paper, the method of description, the methods of analysis and synthesis, inductive and deductive methods and the method of comparison were used.
Considering that the strategy for the development of civil protection at the national level has not yet been adopted, this paper aims to identify recommendations for the development of the civil protection system at the national level with focus on the legislative and planning framework, disaster risk reduction and the development of operational capacities for response to major accidents and disasters.
The National Development Strategy of the Republic of Croatia until 2030 (adopted on February 5, 2021, by the Croatian Parliament) is a key document that outlines the direction of the country's development for the upcoming period. This strategic document sets the vision, goals, and priorities for Croatia's development, and determines the key measures and projects needed to achieve these goals. The National Development Strategy, through its 7th strategic objective titled "Security for Stable Development," has identified the priority area of "Strengthening

Resilience to Disaster Risks and Improving the Civil Protection System." Three development priorities have been defined from strengthening capacity and resilience at all levels and stages of the disaster risk management system, reducing the risk of disasters and strengthening the capabilities of civil protection operational forces. These priorities clearly define areas aimed at improving the civil protection system, increasing resilience to natural and manmade risks, and ensuring the safety of citizens. In this regard, the National Development Strategy serves as a key strategic document to which other development documents should be aligned, primarily county development strategies that cover specific geographical areas where one of the priority development areas is the civil protection system.
According to the Law on the Civil Protection System, regional self-government units are obliged to organize tasks related to the planning, development, effective functioning, and financing of the civil protection system. They must also strengthen and complement the readiness of the existing operational forces of the civil protection system within their area, in accordance with the risk assessment of major accidents and the civil protection action plan. During the budget adoption process, they consider and adopt the annual analysis of the situation and the annual plan for the development of the civil protection system, which includes financial effects for a three-year period. Additionally, they consider and adopt guidelines for the organization and development of the system every four years.

2. Developmental needs of civil protection

The improvement of the civil protection system involves not only the modernization of equipment and infrastructure and the development of operational capacities but primarily increasing resistance to disasters through the implementation of preventive measures. These measures aim to reduce the risk of disasters and educate citizens about the risks and appropriate responses in the event of disasters, as well as to raise awareness about the importance of personal and collective safety. The development needs of civil protection are determined by various analyses and assessments, with risk assessments playing the most crucial role.
Planning in civil protection involves preparing planning documents as determined by legal and regulatory frameworks in accordance with the levels and competencies of the civil protection system. The planning process must adhere to certain principles, including promoting development and creating conditions for continuous improvement (Toth et al. 2011:162).
Risk assessment is a key planning document in the civil protection system that enables the identification, analysis, and evaluation of potential major accidents and/or disasters. This document serves as the basis for planning preventive measures and disaster response activities. In the Republic of Croatia, this area is detailed in the Rulebook on guidelines for the preparation of risk assessments of disasters and major accidents for the territory of the Republic of Croatia and local and regional self-government units.
Risk assessment, as the "main" document for planning the development of civil protection, is based on international guidelines and decisions prescribed at the level of the European Union. Decision No. 1313/2013/EU of the European Parliament and the Council of December 17, 2013, on the Union Mechanism for Civil Protection, stipulates the obligation to prepare national risk assessments every three years. The decision also mandates the inclusion of a national risk assessment in all sustainable development strategies. In addition to the assessment, strategies must address all relevant issues and EU directives/policies, such as Directive 2007/60/EC of the European Parliament and of the Council on the Assessment and Management of Flood Risks, Council Regulation (EC) No. 2012/2002 on the Establishment of the European Union Solidarity Fund, and the European Union Strategy for Adaptation to Climate Change (COM/2013/0216).

National risk assessments are developed based on national regulations in the field of civil protection and in accordance with the Risk Assessment and Mapping Guidelines for Disaster Management from European Union. These guidelines build on experiences from practical implementations of national risk assessments and mapping, existing good practice for risk disaster assessments available in Member States (Guidelines, 2010). The objectives of these guidelines are to improve the alignment and consistency of risk assessments, to make risk assessments comparable for better use of good practices and international standards, and to provide a risk management tool for institutions responsible for disaster management.
On March 20, 2024, the Government of the Republic of Croatia adopted the latest Disaster Risk Assessment for the Republic of Croatia, in which 16 risks were evaluated and classified into three categories:

1. *Acceptable risks* that, apart from usual and planned measures, do not need to be additionally treated: nuclear accidents, soil salinization, sea pollution, harmful organisms of plants in agriculture, radiological accidents, harmful organisms of animals in agriculture.
2. *Tolerated risks* that need to be reduced according to the possibilities and with a cost-benefit analysis, primarily at the regional and local levels, if disaster risk reduction measures are not uneconomical and where the costs greatly exceed the benefits: drought, extreme temperatures, snow, ice, epidemics and pandemics, industrial accidents.
3. *Unacceptable risks* for which it is necessary to take measures to reduce the risk of disasters to bring their level to an acceptable level: open fires, floods caused by the spilling of terrestrial water bodies, earthquakes, landslides (Disaster Risk Assessment for the Republic of Croatia, 2024).

In addition to the state level, all counties in the Republic of Croatia, including the City of Zagreb, have completed risk assessments of major accidents where 21 risks have been addressed. A total of 167 risks were evaluated, of which 12 were assessed as acceptable risks (shown in green in the picture), 47 as tolerated-moderate risks (yellow), 70 as tolerated-high risks (orange), and 38 as unacceptable risks (red), as shown in Table 1.

Table 1: Overview of regional major accidents risk assessments, Source: author distribution based on major accidents risk assessment from counties and city of Zagreb

Region/Risk	Earthquake	Flood spill	Flood - dam burst	Forest Fires	Epidemic	Drought	Landslides	Extreme temp.	Demography	Hail	Industrial accidents	Low temp.	Snow and ice	Wind	Rain	Frost	Storms	Ice	Plant diseases	Animal diseases	Soil salinization
Zagrebačka																					
Krapinsko-zagorska																					
Sisačko-moslavačka																					
Karlovačka																					
Varaždinska																					
Koprivničko-križevačka																					
Bjelovarsko-bilogorska																					
Primorsko-goranska																					
Ličko-senjska																					
Virovitičko-podravska																					
Požeško-slavonska																					
Brodsko-posavska																					
Zadarska																					
Osječko-baranjska																					
Šibensko-kninska																					
Vukovarsko-srijemska																					
Splitsko-dalmatinska																					
Istarska																					
Dubrovačko-neretvanska																					
Međimurska																					
City of Zagreb																					

Precisely unacceptable risks represent a challenge to competent participants and operational forces of the civil protection system. Unacceptable disaster risks are those with potential consequences deemed too severe for society, the economy, or the environment, to be accepted

without significant measures to reduce or eliminate them. Identifying unacceptable risks is a key component of the risk management strategy, as it enables the prioritization of resources and activities aimed at reducing these risks. Proper identification and management of unacceptable risks are crucial to ensuring the safety of citizens, and the protection of property and the environment in the Republic of Croatia.
If we compare the unacceptable risks evaluated through the national risk assessment with those evaluated through the regional risk assessments, we can observe certain inconsistencies, as shown in Table 2.

Table 2: Overview of unacceptable risks in major accidents regional risk assessments in relation to the exposed population and area, Source: author distribution based on major accidents risk assessment from counties and city of Zagreb and national disaster risk assessment

Unacceptable risk	No. of regions	Population no.	% population at the national level	Surface km2	% surface at the national level	Risk at the national level
Earthquake	2	415.549	10,73	4845	8,57	YES
Flood spill	6	789.915	20,40	14557	25,74	YES
Flood - dam burst	1	115.564	2,98	1783	3,15	NO
Forest Fires	3	679.564	17,55	9426	16,66	YES
Epidemic	6	764.536	19,75	13104	23,17	NO
Drought	3	440.229	11,37	7902	13,97	NO
Landslides	4	525.042	13,56	7686	13,59	YES
Ekstremne temperature	5	626.263	16,17	9434	16,68	NO
Extreme temp.	1	143.113	3,70	2449	4,33	NO
Demography	1	143.113	3,70	2449	4,33	NO
Snow and ice	1	265.419	6,86	3589	6,35	NO
Wind	1	101.221	2,61	1748	3,09	NO
Rain	1	101.221	2,61	1748	3,09	NO
Plant diseases	2	280.189	7,24	4854	8,58	NO

Table 2 provides an overview of unacceptable risks evaluated through 21 regional risk assessments, showing the exposure of population and the area in relation to the total number of population and the total area of the Republic of Croatia.
Interestingly, 10.73% of the total population is exposed to earthquakes, classified as an unacceptable risk at the national level. In contrast, 19.75% are exposed to epidemics (with 6 counties evaluating the risk as unacceptable) and 16.17% are exposed to extreme temperatures (with 5 counties evaluating the risk as unacceptable). However, epidemics and extreme temperatures were not classified as unacceptable risks at the national level. Landslides are considered an unacceptable risk at the national level, despite 13.56% of the population being exposed to this risk. It's important to note that this percentage is even lower because landslides do not affect the entire population of a county. This exposure is significantly less than the exposure to the risk of epidemics and extreme temperatures, which were evaluated as tolerated risks in the disaster risk assessment.
This information is crucial as risk assessment is directly related to the analysis of the civil protection system. These analyses are presented in risk assessments and serve as a relevant source for defining regional development policies and determining priority goals and measures for risk reduction and the development of the operational forces of the civil protection system. The development needs derived from this analysis relate to strengthening resilience to unacceptable risks and adapting to climate change. This includes the modular development, equipping, and training of the operational forces of the civil protection system.

3. Current state analysis of the civil protection system

The current state analysis of the civil protection system in the Republic of Croatia is essential for understanding current capacities, identifying weaknesses, and defining areas for improvement. The civil protection system is extremely complex, involving various participants and operational forces that collaborate in the prevention, preparedness, response, and recovery from disasters. Conducting the situation analysis requires a methodological and interdisciplinary approach to gather comprehensive information from all relevant factors about the current state of the system.

The current state analysis of the civil protection system in the Republic of Croatia are carried out through several civil protection planning documents. These include the creation of guidelines for the organization and development of the civil protection system, as well as annual analyses of the civil protection system at the local and regional self-government levels. Additionally, state analyses are part of disaster risk assessments (at the state level) and major accident risk assessments (at the local and regional levels).

The guidelines for the organization and development of the civil protection system at the annual level include an analysis of the civil protection system. This analysis monitors implementation and coordinates development plans for the civil protection system for each year until the end of the mandate period. Annual analyses monitor the progress of the goals from the Guidelines, determine the current state, redefine priorities, evaluate the contributions of stakeholders and participants in the implementation of measures and activities from the development plan, analyze the financing of the civil protection system, and assess the realization of all other important activities for auditing civil protection system development plans (Law on Civil Protection System, 2022).

The guidelines are drawn up based on the annual analysis of the state of the civil protection system and determine the priorities of the regional administration in the field of civil protection for a four-year period. These guidelines specify, among other things, priority preventive measures, the dynamics and manner of their implementation, and public risk management policies aimed at reducing the vulnerability of categories of social values exposed to harmful threats, along with the responsibilities for their implementation. Additionally, in accordance with the guidelines, the competencies of the operational forces of civil protection are strengthened, and the necessary financial resources are planned to achieve the priority development goals of the civil protection system over four years (Law on the Civil Protection System, 2022).

Development goals are determined based on risk assessment with an emphasis on:

- Preventive measures that relate to public policies and stakeholders, enabling responsible risk management by all sectoral participants from the regional level of the civil protection system.
- Development of the organization of the civil protection system and operational capacities for responding to major accidents and disasters (Rulebook on planning, 2021).

Valid risk assessments of major accidents at the level of all regional administrations (counties and the City of Zagreb) showed the state of the civil protection system at the regional level in two phases of the civil protection system management cycle: prevention and response, as shown in Table 3.

Table 3: Review of preparedness in the area of prevention and response at the regional civil protection system, Source: author distribution based on major accidents risk assessment from counties and city of Zagreb

Reagion/readiness	Prevention	Response
Zagrebačka	High	High
Krapinsko-zagorska	High	High
Sisačko-moslavačka	High	High
Karlovačka	Low	High
Varaždinska	High	High
Koprivničko-križevačka	Low	Very high
Bjelovarsko-bilogorska	High	High
Primorsko-goranska	High	High
Ličko-senjska	High	High
Virovitičko-podravska	High	Low
Požeško-slavonska	High	Low
Brodsko-posavska	Low	Low
Zadarska	High	High
Osječko-baranjska	Very high	Very high
Šibensko-kninska	High	High
Vukovarsko-srijemska	Low	Low
Splitsko-dalmatinska	High	High
Istarska	High	High
Dubrovačko-neretvanska	High	High
Međimurska	High	High
City of Zagreb	High	High

Very high preparedness was determined by 2 counties for 3 categories, high readiness by 16 counties for 29 categories, and low preparedness by 6 counties for 8 categories, while very low preparedness was not determined for any of them.
Determining the level of preparedness of the civil protection system, both in the prevention and response phases, is based on the data of the current situation and, to a certain extent, the subjectivity of the working group that assesses the risk of major accidents. A very high level of readiness can be interpreted as a capacity that does not need improvement, only maintenance. Consequently, there may be less availability of financial resources for the implementation of international projects in these areas.

4. Development of civil protection

The development of the civil protection system in the Republic of Croatia requires a comprehensive and integrated approach that includes legislative changes, improvement of operational capacities, strengthening of prevention. preparedness and education of citizens. Through continuous investments, cross-sector cooperation, and the use of digital technologies, the civil protection system can become more resilient and effective in disaster risk reduction and operational activities. In this context, planning documents play a crucial role because they determine priorities for development through the identification of strategic goals and the implementation of measures and activities in the future. This forms the basis for the application and implementation of projects funded by the European Union.

For this reason, all regional self-government units have adopted development plans until 2027 in accordance with the Law on the System of Strategic Planning and Development Management of the Republic of Croatia (Official Gazette, No. 123/17, 151/22). The development plan is a medium-term strategic planning document that aims to determine the priority areas of development for regional self-government units. These development plans, among other things, outline the development priorities of the civil protection system at the regional level.

Table 4: Overview of development goals of the civil protection system, Source: Author distribution based on development strategies of counties and city of Zagreb

Region/managament activity	Planning	Prevention	Preparedness	Operations	Infrastructure
Zagrebačka	1	1	2	4	
Krapinsko-zagorska	2	3	4	2	
Sisačko-moslavačka				1	
Karlovačka	1			1	
Varaždinska	4	2	4	1	1
Koprivničko-križevačka		1	1		1
Bjelovarsko-bilogorska	1	1	1		2
Primorsko-goranska		1	1		1
Ličko-senjska	2	2	2	3	1
Virovitičko-podravska	2	1	2	2	1
Požeško-slavonska				1	
Brodsko-posavska			1		5
Zadarska		1	2		
Osječko-baranjska	1	1	1		
Šibensko-kninska	1	1	1	1	1
Vukovarsko-srijemska		1	1	1	
Splitsko-dalmatinska	1	1	7		1
Istarska	1		1		
Dubrovačko-neretvanska	1		1	1	1
Međimurska		2	1		2
City of Zagreb	3	2	4	3	3

Number of development goals per each regional level is shown in Table 4 and classified into five areas:

- Planning: Refers to the adoption of certain planning documents and their application.
- Prevention: Involves the implementation of preventive activities to raise awareness of risks and the organization of various types of public education.
- Preparedness: Includes activities for developing operational capacities through equipping, training, and exercises.
- Operational: Involves activities aimed at improving the decision-making process, procuring equipment, enhancing communication systems, and providing logistical support for operational activities.
- Infrastructure: Primarily concerns the construction of facilities for the accommodation and work of operational forces.

At the level of 21 regional units, a total of 120 development goals have been identified, with an emphasis on the development of operational capabilities, including infrastructure for operational forces (78 in total). In contrast, there is less emphasis on preventive-planning areas (42 in total).

Considering that modern civil protection systems prioritize disaster risk reduction, it is necessary to shift the focus from "operational" goals to "preventive" goals, as prevention should be the core activity of the civil protection system.
Following the obligations under the Law on the System of Strategic Planning and Development Management of the Republic of Croatia, regional self-government units adopt annual plans for the development of the civil protection system based on the Law on the Civil Protection System. The annual development plan is a document that implements the goals from the guidelines for the organization and development of the civil protection system. It specifies measures and activities and determines the dynamics of their realization. The annual plan for the development of the civil protection system at the regional level identifies the stakeholders, deadlines for goal realization in the following year, and projections with financial effects for a three-year period. The quality and content of the annual plan are determined by the management levels in the civil protection system and depend on their professional competences and the responsibility of the participants in implementing legal obligations in the field of civil protection, as well as on continuous professional and responsible institutional supervision (Rulebook on planning, 2021).
The planning and implementation of preventive measures presented in the annual development plan should be carried out so that all responsible participants of the civil protection system are included in the risk management process according to the priorities that will be continuously realized through risk management policies. This is achieved through the implementation of development plans for the civil protection system, which need to be harmonized with risk assessments of major accidents and the Disaster Risk Management Strategy.
In implementing development goals, it is necessary to align the priorities defined by the county development strategies, adopted based on the Law on Strategic Planning and Development, with the priorities defined by the guidelines for the organization and development of the civil protection system and the annual plan. Ideally, only one development document should be adopted at the regional level of the civil protection system to define unified priorities and development goals based on the analysis of the situation in which all participants and operational forces of the civil protection system participate.
The development of the civil protection system should ensure continuous communication with citizens and the strengthening of a security culture, as well as the development and implementation of new technologies and digital innovations. For the Republic of Croatia, it is crucial to reduce the burden on local self-government units for the sustainable development of civil protection and to ensure the implementation of best practices and international guidelines for receiving and sending international assistance during disasters.

5. Final remarks

The civil protection system ensures the implementation of measures and activities in complex crisis situations critical to national security. This system should be flexible, logistically self-sufficient at the local level, and strengthen the capacities of the operational forces of civil protection. However, the primary emphasis should be on reducing the risk of disasters. The overview of assessed risks and the analysis of the civil protection systems at regional level, reveals a noticeable disparity compared to the national disaster risk assessment (assessed risks and analysis of civil protection system).
When discussing development goals, it is essential to consider development potential. The greatest potential lies in interested citizens and the high members of the civil protection system operational forces participants. Civil protection headquarters are recognized as a platform for intersectoral cooperation, and it is crucial to regularly implement lessons learned from major accidents and disasters. International funds for project application and implementation, as well

as established international cooperation and membership in international organizations, provide financial resources and the opportunity to apply best practices from other countries. Increasingly, cooperation with the academic-research community, available digital innovations, and the application of artificial intelligence are becoming more important.
The development goals primarily focus on operational preparedness and the construction of necessary infrastructure for the civil protection system's operational forces through projects financed by the European Union. Additionally, it is essential to emphasize planning and prevention civil protection activities that contribute to proactive disaster risk management in the long term. This should be the primary strategic goal of civil protection activities moving forward.

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