

AUTHOR REVIEW OF DOCTORAL (PhD) DISSERTATION

NATIONAL
UNIVERSITY OF PUBLIC SERVICE
Doctoral Council

PLÉBÁN JÁNOS KRISTÓF LT.-COLONEL FIRE

Opportunities for improving the logistical capacity of voluntary civil protection organisations

author's review of the doctoral dissertation and its official reviews

Budapest
2020

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Supervisor:

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1. DEFINITION OF THE SCIENTIFIC PROBLEM

A fundamental element of the economic and social development of every community is the people's awareness of safety and security, which enables them to plan, and sustain daily activities during the normal period. The effectiveness of the protection of the population is enhanced by the individual's efforts, energy and time spent on the community. In order to strive for personal safety of the self-care citizen, his / her role in the system of preparedness, protection and restoration is the realization of the voluntary, responsible, active will to support the achievement of the horizontal and social objectives of social.

An effective citizen's response to the challenges of disaster - based on legislation, European policies and methodologies - can only be formulated within the framework of an organized, prepared and equipped rescue organisation. These organisational frameworks for civil protection are provided by obligated civil protection organisations and voluntary civil protection rescue organisations.

Given the large number of new and inexperienced volunteer civil protection rescue organisations in Hungary, it is important to review the role and role of volunteering in the Hungarian disaster management system. Identify the ability of voluntary NGOs to respond effectively to disasters and the extent to which their logistical capabilities can contribute to defence

Hungary is a member of the European Union ("EU"), the United Nations ("United Nations") and the North Atlantic Treaty Organisation ("NATO"), and these international organisations provide assistance to the countries concerned in the event of a major disaster or humanitarian emergency. in the whole world. The civil protection tasks of these organisations can only be undertaken if Hungary meets the relevant technical requirements and applies them for their original purposes. In my opinion, the implementation of the mission of civil society organisations voluntarily set up to carry out a civil protection mission and save human lives should be examined within the European political system, where special capabilities are added to both European and national defence capabilities, so their development is of European and national interest. I consider it important to determine what capabilities are needed to develop and maintain national and international financial resources.

The increase in the number and magnitude of casualties over the last decade, the implementation of civil protection missions in a constantly changing social environment, requires the development of defence capabilities and qualifications by volunteer civil protection rescue organisations, which should be reflected in in the use of technical equipment. This

modernization can be carried out in full compliance with the principles of economical, cost-effective management and of the integrated disaster management system, procedures and voluntary relations system. It is important to examine what procedures are in place to financially support development and how volunteer civil protection rescue organisations can use these professional and financial opportunities.

The purpose of my chosen research is to investigate how volunteer civil protection rescue organisations can improve their support logistics to ensure on-site collaboration with professional forces. The scientific results of the research can make an important contribution to the effective task of volunteer civil protection rescue organisations and thus to the development of the effectiveness of integrated disaster management.

Based on these, I identified the following four scientific problems:

1. Volunteer civil protection rescue organisations can only be deployed on a legally regulated basis and I therefore consider it necessary to review the requirements for their intervention on the ground and to comprehensively examine the impact and legislation governing their scope.
2. The United Nations, the EU and NATO play a crucial role in the development and implementation of international disaster relief programs. I consider it important to examine international civil protection procedures and policies to determine how voluntary civil protection rescue organisations can contribute to international political goals.
3. The technical tools and disaster management materials used play an important role in maintaining the logistical capacity of voluntary civil protection rescue organisations, but there is no developed procedure for selecting and qualifying disaster management capabilities and materials, so I consider it necessary to examine them.
4. The knowledge that comes from the professional disaster management organisation within the training system is crucial to ensure the sustainable operation of voluntary civil protection rescue organisations. It should be examined to what extent the training materials of these rescue organisations support the creation of project-based development capability.

2. RESEARCH OBJECTIVES

The research objectives for the four research areas described in the definition of scientific problems are as follows:

1. In order to prove my suggestion that the legal framework for the use of voluntary civil protection rescue organisations is incomplete, and to make a proposal to that effect, I research the Hungarian system of disaster protection and the legislation concerning voluntary civil protection rescue organisations.
2. In order to identify international civil protection professional capabilities that can be used by volunteer rescue organisations to improve the effectiveness of disaster management operations, I review the policy guidelines of international organisations and analyse how they assist the work of domestic volunteer civil protection organisations in disaster management.
3. In order to identify the range of technical tools and disaster management materials that are relevant to maintaining the capability of volunteer civil protection rescue organisations to carry out a disaster management operation, I examine the intervention requirements of the rescue organisations according to their task, and analyse the consequences of damage to or failure of technical equipment and disaster management materials.
4. In order to determine the training requirements for the acquisition and use of financial resources to maintain the logistical capacity of voluntary civil protection rescue organisations, I investigate what national and international resources can be used to develop and maintain the intervention capacity of voluntary rescue organisations. Based on the results of the research, I will make a suggestion to develop the skills needed for professional development in support of European policies

3. RESEARCH METHODS

In order to achieve the research objectives, I studied the relevant domestic and international regulations and literature. During the research of the topic I based my conclusions on general research methods (analysis, synthesis, induction, deduction):

- I tracked international and domestic literature and catastrophe events, processed and compiled a database of UN earthquake and flood disaster reports from 1987 to 2018, from which I drew conclusions;

- I applied the secondary research method and processed the relevant national and international legislation related to the research topic, as well as the written and electronic domestic and international literature;
- I participated in conferences and lectures on the topic of disaster management and civil protection, which I used in my research;
- Using the primary research method, I surveyed the logistic needs of the volunteer civil protection rescue organisations, the technical-technical logistical support issues, and participated in the training practice of the Hortobágy county volunteer protection rescue organisation and several local volunteer rescue groups. I used the experience in my research.

4. BRIEF DESCRIPTION OF THE PERFORMED EXAMINATION BY CHAPTER

In *Chapter I* of the dissertation I introduced the concept of catastrophe and the classification of disasters. I researched the place and role of volunteering in disaster prevention. I examined the history of volunteer civil protection rescue organisations in disaster management. I examined the Hungarian system of disaster management and the legal status of organisations involved in disaster management.

In *Chapter II*, I examined the role of international organisations in disaster management, the UN crisis management system, the EU civil protection policy, including the EU civil protection mechanism and its legal background. I examined the role of voluntary civil protection rescue organisations in the UN Disaster Strategy. I examined the role of NATO in disaster response and the role of voluntary civil protection rescue organisations in military-civilian cooperation. I analyzed European information, forecasting and detection systems, as well as domestic flood and inland water forecasting databases, meteorological forecasting, earthquake detection system.

In *Chapter III*, I investigated the forms of volunteering involved in disaster management, the conditions for the use of voluntary civil protection rescue organisations in disaster management, on the basis of relevant domestic and international legislation, methodological guidelines and guidelines. I have presented the structure and division of voluntary civil protection rescue organisations according to their capabilities. I investigated the logistics of disaster management and analyzed the logistic tasks of BM OKF GEK and MKI and the cascading logistic support system. I investigated their logistic abilities needed for the intervention, the effect of their technical equipment and specialist materials on their intervention abilities.

In the *Chapter IV*, I introduced the system and methods of preparing volunteers. I have introduced their intervention rights in accordance with applicable domestic and international regulations and the certification process. I have introduced the financial support system in the EU and in the field of domestic civil protection and I examined the training requirements for the development of the capabilities of voluntary civil protection rescue organisations in obtaining and using financial resources.

5. SUMMARY CONCLUSIONS

I believe that disaster grouping is an important basis for planning and organizing defences. In my opinion, from a multi-faceted approach, division by location and origin is better for defence management, and by origin and character, for implementation.

As a result of the examination of the statistical data, I have shown that the number of casualties shows an upward trend, resulting in an increase in both the number of persons affected and the extent of economic damage. In terms of disaster rates, I have found that they have caused the most damage in areas where centralized disaster protection is deficient in terms of power, equipment, or in terms of building a society-wide defence system. Consequently, voluntary civil protection rescue organisations are an important part of disaster prevention. During the examination of the Hungarian system of disaster management I found that until the entry into force of Act CXXVIII of 2011, the volunteer civil protection rescue organisation in the modern sense, was represented by the Hungarian Red Cross, with its infrastructure and technical background, as its capabilities included technically well prepared rescue in special circumstances.

Examining the place of civil protection organisations and voluntary civil protection organisations in the defence system, I found that while the territorial hierarchy of obligated civil protection organisations follows the hierarchy of the defence administration and the disaster management system, the voluntary system differs. I have shown that the applicable regulations do not determine the legal status of district and municipal voluntary civil protection rescue organisations, and that the scope of the qualification system for intervention is not extended to municipal voluntary civil protection rescue organisations, so the legal basis for their intervention on the ground is incomplete. I made a proposal to regulate the competence of the district volunteer civil protection rescue organisations, and the status of the municipal voluntary civil protection rescue organisations, and to supplement the National Qualifications System with the category of local professional qualification.

I concluded that the UN had a decisive role in developing and implementing international disaster relief programs. These programs focus on developing states' resilience to disasters, increasing their capacities, pooling efforts at international level, and developing cooperation. I have stated that voluntary civil protection rescue organisations involved in disaster protection, UN coordination, should have the intervention capabilities set out in the INSARAG guidelines and methodology.

I have stated that strengthening civil protection is one of the top priorities in the EU and that a stronger territorial and community-driven dimension of EU instruments is a key area of EU civil protection policy, as local community action is the fastest and most effective way to mitigate the damage caused by disasters. As national prevention is the overriding principle of reducing security and defence risks in the Member States, the EU Civil Protection Mechanism serves to complement existing national capabilities. As a result of the analysis of the content of the EU Civil Protection Mechanism, I concluded that the EU provides both Civil Protection Modules based on Member States' resources based on voluntary civil protection rescue capabilities and a rescEU system managed by the Commission to build up the Reserve Capacity.

The dangers of extreme weather are constantly present and can only be avoided by proper warning systems. Proper planning, monitoring and early warning can mitigate the damage caused by natural disasters and, consequently, prevent the emergence of humanitarian disasters. I have stated that EU policy is based on the cooperation of Member States on a permanent local, regional and cross-border basis in the operation of a common alert system for rapid assistance before the mobilization of rescEU the emergence of disasters. Analysing European and domestic information, forecasting and detection systems, I found that the GDACS disaster alert system, the CEMS satellite map support and the OSOCC information platform have open internet access, thus providing real-time access to voluntary civil protection rescue organisations. I reviewed the data bases providing the Hungarian flood and inland water forecasts, the meteorological forecasting system, the earthquake detection system and found that they operate in connection with the EU databases, and the information provided by them fits into the Hungarian defence system.

I found that volunteer civil protection rescue organisations have access to international and domestic decision support and detection systems that communicate their data via the open Internet. At the same time, they do not have access to the closed information systems of the domestic public bodies. I suggested that the voluntary civil protection rescue organisations should have access to qualified data of EDIS RIS for real-time access to information on security incidents., and the OKF can assist with the release.

I concluded from the cooperation of international organisations within NATO's CEP that developing the capabilities of voluntary civil protection rescue organisations strengthens NATO, EU and UN disaster response capabilities. My conclusion is that international organisations provide a framework for volunteer civil protection rescue organisations to intervene at international level and provide decision support information for operations. The policy strategy of the international organisations is to build an international defence based on effective cooperation between Member States, transfer of experience and good practices. Voluntary civil protection rescue organisations, by taking part in the international defence system, can improve their human resource preparedness, which can significantly increase their effectiveness in dealing with damage.

I have introduced the role of volunteers in disaster prevention and stated that the effectiveness of citizen intervention is ensured only by the organisational framework that corresponds organisations established under the Disaster Management Act., like the to voluntary civil protection rescue organisation. I systematized volunteer civil protection rescue organisations based on their purpose, expectations and requirements for deployment capabilities, and found that maintaining USG-certified central civil protection volunteer rescue teams is a task of maintaining international readiness, task of civil protection rescue organizations.

I have established that the strengthening of the voluntary civil protection organizations in the field intervention, in terms of their primary logistic capabilities, in the cascade logistic support system, is carried out by the logistical provision of the competent regional body for professional disaster management.

I have found that the BM OKF GEK, during the period of extraordinary law, provides reinforcing support to volunteer civil protection rescue organizations with defence capabilities to the detriment of its available resources.

I have defined the concept of disaster management operational capability of voluntary civil protection rescue organizations, which is the ability to ensure the continuous availability of the volunteer rescue organization involved in disaster management, to fulfil its professional function and qualification in order to protect human life and material values. I worked out the certification process for disaster management materials, to select specialist materials that influence disaster management capability. I analysed the results of the qualification matrix set up in the qualification process and gave practical examples for the defined categories.

I have identified innovative funding mechanisms for innovative disaster management activities and have found that funding sources supporting disaster capacity are important

elements in the continuous development of capabilities. I found that volunteering organizations, in line with the EU capability development strategy, can only access development resources through international cooperation. In my opinion, voluntary civil protection rescue organizations should strive for international cooperation in order to provide opportunities for participation in projects that develop experience and logistics. I concluded that the EU civil protection support system and the national support system complement each other to ensure the development of civil protection rescue organizations.

Examining the national forms of support, I have found that the funds focus on developing the logistical capabilities of volunteer civil protection rescue organizations, as evidenced by the support of operation and maintenance costs that appear in the 2018 Call for Proposals. Through the KEHOP projects I presented the development directions of the state professional organizations and I found that the BM OKF professional management of the KEHOP projects ensures that the intervening volunteer civil protection rescue organizations can be connected to the professional intervening organizations with the necessary professional conditions and in their defence system. technical equipment, management and logistical support background.

As a result of the examination of the training, preparation and qualification system of voluntary civil protection rescue organizations, I made a proposal on the professional content, extension and implementation of the training of voluntary civil protection rescue organizations and determined its place in the training system of voluntary civil protection rescue organizations.

6. NEW SCIENTIFIC RESULTS

In accordance with my research objectives and hypotheses, I propose the following new scientific results:

- 1.* I have proven that the rules and requirements for the use and development of voluntary civil protection rescue organizations are not exhaustive. I propose that the status and function of voluntary civil protection organizations in districts and municipalities be defined in the current legal framework and that the scope of the national intervention qualification system be extended to voluntary civil protection organizations in municipalities.
- 2.* I have proven that the processing of policy programs - trainings, cooperation exercises - provided by UN INSARAG and the EU Civil Protection Mechanism can be achieved by the civil, voluntary, civil protection organizations at central, county, district and municipal level and can improve their damage prevention capabilities.

3. I have defined the concept of the operational capability of voluntary civil protection rescue organizations, which includes the elements of availability and intervention capability, thus providing a complex definition of the capability of voluntary rescue organizations to perform disaster management operations. I have developed a certification procedure for technical tools and materials affecting the operational capability of voluntary civil protection rescue organisations, I have developed a matrix of importance of materials for the systematization of technical tools and materials for disaster management and developed a recommendation to reduce the risk of the operation.
4. I have developed project-based innovation training material that take into account the specific capabilities of volunteer rescue organizations and I have identified its place in the volunteer rescue training system. I recommend extending the training of volunteer civil protection rescue organizations to the application writing curriculum, which ensures the effective participation of voluntary civil protection rescue organizations in national and international call for proposals, and thus their professional and financial development and the sustainability of the results achieved

7. PRACTICAL USE OF RESEARCH RESULTS

In my opinion, the results of my research can be used in the following areas:

1. My conclusions with regard to legal regulations may be instrumental in triggering a review of internal civil protection disaster management regulations regarding the purpose and qualification of voluntary civil protection rescue organisations.
2. Research findings and conclusions on the system of defence and the role of international organizations may be suitable for the National University of Public Service Institute for Disaster Management and for the Centre for Disaster Management Education to present in the trainings
3. 3. The matrix on the importance of technical tools and disaster management expertise can assist in the classification of volunteer civil protection organizations' operational assets and expertise, and in the efficiency of procurement and stockpiling.
4. My professional suggestions for developing the capabilities of voluntary civil protection rescue organizations can be used to improve the training system of civil protection rescue organizations and to ensure their sustainable development.
5. My critical observations on the functioning of voluntary civil protection rescue organizations, as set out in my conclusions, may help to review current practices in civil

protection, may result in additional structural controls, improving the ability of organizations to intervene.

6. Further research opportunities to facilitate the task and capacity of volunteering organizations, to facilitate equipment, and to eliminate the parallelism filter and the effective operation of a national support system.

8. RECOMMENDATIONS

I make the following suggestions for the use of the conclusions and scientific results of my dissertation:

1. On the basis of my proposal to improve the capabilities of civil protection rescue organizations, the specific requirements of the law and the tasks can be used to increase the capacity of voluntary civil protection rescue organizations to cooperate on the ground and to increase the effectiveness of their intervention.
2. Following my recommendation, the sustainable development of voluntary civil protection rescue organizations can be ensured.
3. The professional recommendations and findings developed during my research can serve as a basis for re-structuring the civil protection rescue organization training system and for making their financial and professional operations sustainable. The results of my research may in the future contribute to increasing the efficiency of the implementation of the task formulated in the disaster prevention activities by the voluntary and state actors of national and international security policy.

9. LIST OF PUBLICATIONS RELATED TO THE DOCTORAL CANDIDATE

LECTURED PROFESSIONAL JOURNALS (ON-LINE IS)

In a foreign language journal in Hungarian

[1] Plébán, János Kristóf - Endrődi, István: Les taches des organisations bénévoles de défense civile en cours d'évacuation et de réception, *Hadmérnök XII*: 4 pp. 99-112., 14 p. (2017), ISSN 1788-1919

In a Hungarian periodical in Hungarian

[2] Plébán, J Kristóf - Muhoray, Árpád: Polgári védelmi mentőszervezeti fejlesztési keretek az Európai Unió polgári védelmi szakpolitika tükrében, *Bolyai Szemle XXVI*: 2017/1 pp. 125-142., 142 p. (2017), ISSN 1416-1443

[3] Plébán, J Kristóf: Hajdú-Bihar megyei önkéntes polgári védelmi mentőszervezetek képzési támogatása, Műszaki Katonai Közlöny XXVI: 2 pp. 131-143. , 13 p. (2016), ISSN 2063-4986

[4] Plébán, J. Kristóf: A települési önkéntes mentőcsoportok védekezésének feltételrendszere, Hadtudomány: A magyar hadtudományi társaság folyóirata 26: 1-2 pp. 75-85., 11 p. (2016), ISSN 1215-4121

[5] Plébán, J. Kristóf - Endrődi, István: A katasztrófavédelmi kutató-mentő munka nemzetközi és hazai struktúrájának fejlődése, Hadmérnök X: 1 pp. 92-98., 7 p. (2015), ISSN 1788-1919

International professional journal article

[6] Plébán, J Kristóf - Endrődi, István: Cross-Border Voluntary Network for Disaster Prevention (Hungary-Slovakia), International Journal of Engineering Research And Applications 8 : 5 pp. 1-11. , 11 p. (2018), ISSN 2248-9622

[7] Plébán, J Kristóf - Endrődi, István: Regional Disaster Management Strategy in Hungary, Elixir Applied Chemistry 2018 : 116 pp. 50114-50118. , 5 p. (2018), ISSN 2229-712X.

Published in a Hungarian conference publication

[8] Plébán, János Kristóf: A katasztrófavédelmi polgári védelmi mentőszervezetek fejlesztésének lehetőségei az EU támogatások tükrében pp. 62-69. Paper: 978 - 963 - 87837 - 9 - 0 , 192 p., In: Restás, Ágoston; Urbán, Anett (szerk.) Katasztrófavédelem 2015 , Budapest, Magyarország : BM Országos Katasztrófavédelmi Főigazgatóság, (2015) p. 192, ISBN 978-963-87837-9-0

Published in a International conference publication

[9] Plébán, J Kristóf - Endrődi, István: The role of a disaster prevention policy plan in the improvement of the civil protection structures' work, In: Konferencia, Szervezőbizottsága (szerk.) 11th International Conference on "Environmental Legislation, Safety Engineering and Disaster Management" Elsedima: Building Disaster Resilience in a Changing World (Book of abstracts), Kolozsvár, Románia: Babes-Bolyai University, Faculty of Environmental Science and Engineering, (2016) pp. 65-65. , 199 p., ISBN 978-6060-93873-1-3

10. PROFESSIONAL SCIENCE OF THE DOCTORAL CANDIDATE

János Kristóf, PLÉBÁN Lt. Col. fireman born February 02, 1972. in Miskolc

From 2001 to 2009 he was a civil servant of the Hajdú-Bihar County Council.

From 2001 to 2003, he was the youth policy officer, and from 2003 to 2009 he was the youth and civil policy expert. He has written international tenders in his field and managed international cooperation projects.

From 2009 to 2013 he was the project officer of the Mayor's Office of the Municipality of Miskolc. Since 2012, he has also been responsible for public security duties. In this position he was responsible for managing international cooperation projects and projects in the field of civil protection.

From 2013 he is a member of the Hajdú-Bihar County Disaster Management Directorate, from 2013 to 2015 an Operations Officer, from 2015 to 2018 a Head of the Office, from 2018 an Industrial Safety Supervisor.

In 2015, he was admitted to the Military Doctoral School of Military Engineering at the National University of Public Service Faculty of Military Science and Military.

As a volunteer he has been a member of the Hungarian Civil Protection Association since 2012 and since 2018 he has been a project manager of the DAREnet International Flood Prevention Project, which is a partner of the Association.

During his doctoral studies he carried out his scientific research in accordance with his research topic. During his doctoral training he researched the application of civil protection organizations, their tasks, the historical background of the involvement of the population in civil protection, the legal conditions of the involvement and application of voluntary rescue organizations in the field of disaster protection, the legal and technical conditions and the personal conditions of the establishment of rescue organizations. He researched to ensure the European Union's and international organizations' disaster management and civil protection functions, endangerment to protect against major disasters.

He is a speaker at the Disaster Management Professional Conference, International Conferences of the Institute for Disaster Management and the European Voluntary Civil Protection Forum.

Education:

- Teacher Training College, French and History (BsC) 1997
- Administrative Examination and Security Policy - 2003.
- Law Enforcement Examination - 2014.
- Holds a law enforcement training certificate (MsC) 2014
- Language examinations: French Advanced Complex and English Basic Complex

During his PhD training, he published the results of his research and studies on the topic of his research in Hungarian, French and English.

He has 9 publications in a national standard journal, 1 of which is in French. He has 2 publications in English in international journals. He participated in national and international conferences on civil protection tasks of disaster management, civil protection measures, volunteer intervention opportunities, logistical support of rescue organizations, requirements of technical equipment.

Other informations:

- Since 2016 he has been working as a consultant for the students of the Institute for Disaster Management
- Hungarian Law Society, member of the Military Society.
- Member of the Hungarian Civil Defense Association
- Member of the National Association of Radio Emergency Calls and Info communications
- present at scientific events and programs organized by the University.

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