

Theses of PhD Dissertation

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**Southeast Asian cooperation models applied during
natural disasters, potential adaptation for Hungary and
Central Europe**

Theses of PhD Dissertation

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Research problem

In around 535 AD, a mega-disaster shook Southeast Asia. From the data available to us, only some assumptions can be concluded: the possible cause was the eruption of a volcano located between the islands of Sumatra and Java (at the site of the Anak Krakatau volcano). This was responsible for the destruction of all the then reigning Southeast Asian empires. Indirectly, this disaster may have caused the great medieval global climate change, the plague epidemic that started its journey from Africa, and thus the great waves of migration. We can see that a catastrophic event can have a huge impact on the environment of our Earth, the evolution of history, the life of political systems, and the functioning of our society.

My doctoral dissertation is a comprehensive research on disaster management cooperation. It provides a comprehensive picture of disaster vulnerability, regional disaster management system, and disaster diplomacy situation of two regions – Southeast Asia and Central Europe. I believe that given that disaster relief plays an important role in our lives, an analysis of regional cooperation is absolutely necessary. Furthermore, since only a few research have been conducted regarding disaster diplomacy of a certain geographic area, the present analysis is not only unique but also a pioneer in this new academic field. In the course of the research, I basically separated four major scientific problems, around which I built my doctoral dissertation structure as well.

The first problem is related to individual catastrophic events and natural disasters. While investigating disaster management cooperation between the two regions – Southeast Asia and Central Europe – it is essential to understand their regional disaster vulnerability. This understanding covers the most common disaster types, the most prominent elements of vulnerability, and the

human and economic damage caused by disasters. Although previous research has been conducted with a narrower focus, a detailed regional disaster vulnerability map has not been designed in the context of either Southeast Asia or Central Europe.

The second problem is related to regional disaster management systems. Nation-state emergency management organizations are always structured according to the vulnerability of the given country, the local historical and cultural background, and the political and administrative system. Muhammad Rum, for example, has pointed out the coexistence of specific global and local norms in Southeast Asian country-level organizations. Furthermore, regional political and economic (directly non-disaster management) organizations also have specific elements and norms specific to the region. However, according to the problem I have drafted, the role of norms in regional disaster management organizations has not been studied. That is to say, this dissertation is the first one trying to answer this question through the example of Southeast Asia in the framework of the Southeast Asian Nations (ASEAN).

The third problem stems from a gap in the academic field of disaster diplomacy: few analyzes have been conducted at the regional level, none of which focused on ASEAN. Previous disaster diplomacy studies can be divided into the following categories: (1) a theoretical summary of the academic field; (2) the general effects of a certain disaster type (e.g. the effect of extreme weather); (3) the diplomatic impact of a specific catastrophic event (such as the effects of the 2004 tsunami in Sri Lanka or the eruption of the 1991 Pinatubo volcano); (4) a description of the disaster diplomatic situation of a geographic unit (e.g. for U.S.-Cuba relations). Of these, the latter ones with geographic focus are quite rare and cannot be interpreted for an entire region. Thus, the problem posed is that we do not have a detailed knowledge of the disaster diplomatic situation regarding regional relations. The example of ASEAN is

very beneficial for carrying out such novel research in two respects: on the one hand, being a particularly vulnerable region, disasters play an extremely important role in it, and on the other hand the ASEAN, as a globally unique security organization, is a great breeding ground.

As a fourth research problem, I identified the issue of adaptation. The adaptability of research results from the Southeast Asian region is definitely worth examining. I have chosen Central Europe as the place of practical application, because due to the specific nature of the region (e.g. Visegrad cooperation, relative homogeneity, low vulnerability) it is presumably suitable for adapting good practices in disaster diplomacy, thus for the practical implementation of the Southeast Asian experience.

Hypotheses

- I hypothesize that (H1) **disaster diplomacy is a multidisciplinary academic field that is related to several major disciplines**. I base the hypothesis on the fact that one of the cornerstones of disaster diplomacy, disaster science, is also largely multidisciplinary. Thus, together with diplomacy and international relations, disaster science presumably forms a research area located at the intersection of several disciplines.

- I hypothesize that (H2) **due to climate change, an increase can be observed in the occurrence and severity of disasters in both Southeast Asia and Central Europe**. This assumption is widely accepted, as it can be found in most of the disaster management documents I have examined. According to the academic literature, climate change is affecting the biosphere to such an extent that global disaster statistics are on an upward trend.

- I assume that (H3) **the disaster management system in Southeast Asia reflects certain norms specific to the region**. This is due to the cultural difference and historical background that can also be found in other regional

organizations in Southeast Asia. Such norms include, among other things, fear of sovereignty and non-interference, which fully permeate regional and nation-state organizations. According to this hypothesis, these norms can also be found in the disaster management system.

- I assume that (H4) **the investigated disaster events do not create new diplomatic processes; they only strengthen the existing ones**. This is one of the key tenets of disaster diplomacy literature, according to which emergencies can only function as a catalyst in the diplomatic sphere.

- I hypothesize that (H5) **the disaster diplomacy elements observed in Southeast Asia can be adapted in the Central European region**. The specific characteristics of the Central European region – the loose political concentration, the size of the Visegrad countries, similar vulnerability characteristics, faster reaction time – support the appropriate adaptation of disaster diplomacy and disaster management elements.

Research objectives

(1) I **explore and evaluate** the theoretical literature related to present research: I **systematize** the major schools in disaster theory, **locate** disaster science in the discipline of security studies, **explore** the relations between regionalism and disaster management, and **classify** disaster diplomacy with a taxonomic definition. Furthermore, I **determine** the applied methodology: I **compile** my own methodological criteria for the analysis of regional disaster risk and the regional disaster management system, I **present** the CAS method used in disaster diplomacy analysis as well as the criteria for possible adaptation.

(2) I **examine** disaster vulnerability in Southeast Asia and Central Europe. I use descriptive statistics to **analyze** the disaster events of the last decade and a half.

(3) I **analyze and evaluate** the disaster management system of ASEAN and the Visegrad Cooperation according to my own system of criteria.

(4) I **outline** the disaster diplomacy situation in the ASEAN, **explore** its historical and political background, and **create** a theoretical model for the Southeast Asian disaster diplomacy.

(5) With the identified good practices and opportunities, I **formulate** recommendations for the Central European disaster cooperation. I **explore** the components of the potential collaboration as well as **work out** the appropriate steps.

Materials and methods

I divided and developed the applied methodology according to the chapters of the dissertation.

(1) By collecting and interpreting the literature, I compile the theoretical framework regarding the topic. I define and conceptualize key concepts of research. I perform the taxonomic classification of disaster diplomacy as a discipline with a scientometric analysis based on the Web of Science database. In the course of the study, the research sample consists of sources containing the term “disaster diplomacy”. The used variables used are: *year*, *Web of Science category*, *author*, and *journal*. When compiling the methodological framework, I operationalize the key terms of the research. I determine a methodology in accordance with the theoretical background. Where necessary, I create my own set of criteria for studying the phenomenon under study.

(2) I divide the items of regional disaster vulnerability into three major categories: *natural geographical*, *socio-economic geographical*, and *statistical* elements. I define the variables of disaster risk: *incidence*, *deaths*, *affected*, and *economic damage*. I use descriptive statistical analysis in this chapter.

(3) I examine the regional disaster management system according to my own system of criteria, the variables of which are: *legal, political, practical, and nation-state* level. In the case of Southeast Asia, I define the norms specific to the region and examine its existence among the above variables.

(4) I analyze the phenomenon of disaster diplomacy in four case studies, which indicate four major disasters between 2004 and 2013.¹ In each case study, I use the CAS method, the variables of which are the four properties (*nonlinearity, diversity, flow, aggregation*) and the three mechanisms (*tagging, internal model, building blocks*). Based on these, I establish the characteristics of the disaster diplomacy model in Southeast Asia.

(5) Based on the good practices identified in Southeast Asia and the potential in disaster diplomacy, I make recommendations for disaster management cooperation in Central Europe.

Brief description of the conducted research by chapter

Chapter 1 of the dissertation (**1. Theoretical and methodological framework**) describes the theoretical and methodological framework applied in the research. First, I set up the theoretical framework of the research, which is organized around the following categories for the sake of transparency: (1) disaster theory, (2) disaster management, (3) international disaster management and regionalism, and (4) disaster diplomacy. I discuss the elements of the methodological concept according to three major groups: (1) vulnerability analysis (natural geography, socio-geography, disaster statistics), (2) regional cooperation (general cooperation, legal, political and practical level, and nation-state level), and (3) methodology of disaster diplomacy (case studies, CAS method).

¹ 2004 Indian Ocean tsunami, Cyclone Nargis in 2008, 2011 Southeast Asian floods, and Typhoon Haiyan in 2013.

The focus of Chapter 2 (**2. Regional disaster vulnerability**) is to explore the disaster vulnerability of two regions, Southeast Asia and Central Europe. Here, I use the concepts and disaster typology of the problem-centered approach of disaster theory. In the analysis of the two regions, I examine the vulnerability elements by the criteria previously defined. In the descriptive statistics, I examine the increase in disaster data assumed in the second hypothesis (H2).

In Chapter 3 (**3. Regional disaster management organizations**), I examine regional disaster management cooperation. In this chapter, I use the school of anthropology among the schools of disaster theory, which considers each catastrophe event as part of the natural environment and also examines the cultural effects and causes as part of the phenomenon. The third hypothesis (H3) examined here assumes that specific regional norms can be found in the Southeast Asian system.

Chapter 4 (**4. Disaster diplomacy in Southeast Asia**) is the focus of my dissertation, which aimed to map disaster diplomacy in Southeast Asia. The theoretical framework applied here is the political school of disaster science set previously aside, which investigates catastrophe events as a political factor. I perform the analysis in four case studies, based on the four properties (*nonlinearity, diversity, flow, aggregation*) and three mechanisms (*tagging, internal model, building blocks*) defined by the CAS method as variables. Based on the previous disaster diplomacy literature, I hypothesize that (H4) disaster events do not create new political processes, they only function as catalysts for existing ones.

In Chapter 5 (**5. Adaptation in Central Europe**), I highlight from the experiences of Chapter 4 the elements that can possibly be successfully adapted in the Visegrad Cooperation. I outline the steps needed to exploit the potential

of regional disaster diplomacy. I assume (H5) that there are such adaptable elements.

Conclusions

The topic of my doctoral dissertation is regional disaster management cooperation in Southeast Asia and recommendations based on the results for a possible Central European cooperation. I presented my research through five chapters, in each chapter I formulated the main research problem, the research objective and the hypothesis. Connecting to the hypothesis, I created the theoretical framework of the chapter, defined the applied methodology, and verified them based on the results. Finally, I formulated my research results during the study.

At first, I explored the theoretical and methodological background of the research. The focus of my research was the mapping of the disaster diplomacy situation in Southeast Asia, so the detailed mapping of this field was of paramount importance among the theoretical systems. In the course of my research, I conducted a scientometric analysis, where the main trends were identified in the field of disaster diplomacy, as well as the most important authors and the most relevant journals. In addition, based on my results, I determined disaster diplomacy with a scientometric classification: it is located at the intersection of natural sciences, social sciences, and health science. In the course of scientometric analysis, I examined and proved my first hypothesis, that **disaster diplomacy is a multidisciplinary field of science that is related to several major fields of science.**

The aim of Chapter 2 was to draw disaster vulnerability maps for two regions, Southeast Asia and Central Europe, along with natural geographic, socio-economic, and statistical groups. No far-reaching conclusions can be drawn from the trends in geographical research, as the two regions are very different

in their geographical indicators. Based on the statistical analysis of the last 15 years, it can be stated that in both regions the variables broken down by year are around a certain value, only mega-catastrophes take on an outstanding value, at least one order of magnitude higher. Moreover, the number and magnitude of mega-disasters did not increase during the period under review. Thus, neither a decreasing nor a stagnant nor an increasing trend can be observed in a 15-year perspective. Due to this, I could not prove my second hypothesis: **no significant trend related to catastrophic events can be established for any of the regions.**

In Chapter 3, I performed a structural analysis of the disaster management systems of the two regions. In the course of my research, I analyzed the existence of ASEAN-specific standards in the organization's disaster management legislation, documents, and institutions. Based on my results, it can be stated that three of the norms appear prominently in disaster management cooperation, these are sovereignty, non-interference, and cooperation. Accordingly, I consider my third hypothesis assigned to the chapter to be justified, i.e., **the norms specific to the region can be found in the disaster management system of Southeast Asia.**

In Chapter 4, I conducted a comparative disaster diplomacy analysis in the Southeast Asian region through four case studies. The four case studies demonstrate well the ability of ASEAN member states to cooperate in disaster management when needed. The frameworks for orderly disaster management cooperation have been gradually developed by the association in the context of major catastrophes. ASEAN demonstrates the regional nature of emergency management primarily in information sharing and aid coordination. As for the disaster diplomacy processes in the region, two case studies – the 2004 tsunami and the 2008 Nargis cyclone – can be considered as disaster diplomacy successes, while the other two cases – the 2011 land floods and the 2013 Haiyan

typhoon –can be seen as failures. I proved my hypothesis assigned to the chapter, that is, **the events did not create new diplomatic processes, they only strengthened the existing ones**. At the same time, in the course of the hypothesis test, I also pointed out that due to the current epidemic situation, it cannot be ruled out that a single, permanent risk may establish new diplomatic relations. This possibility will be worth examining in future disaster research.

In the last, I dealt with the adaptation of disaster management cooperation experiences in Southeast Asia to the Central European context. I carried out this research on the basis of my own system of criteria, according to the structure of the previous chapters of the dissertation. According to my recommendations, prevention should focus on information sharing, alerting, and the training of disaster management liaison officers in each Visegrad state. In the disaster relief phase, I did not formulate adaptable elements, but learned from the problems of Southeast Asia and made recommendations that would help cooperation. Furthermore, in the process of the recovery phase, member states are recommended to follow up on major disasters (conferences, events, documentation). I consider my fifth hypothesis, assigned to the chapter, to be proven, that is, **there are disaster diplomacy elements observed in Southeast Asia that can be adapted in the Central European region**.

Theses of research

1. I **determined** the taxonomic classification of the field of disaster diplomacy by scientometric analysis. According to this, it is a multidisciplinary field that lies at the intersection of natural sciences, social sciences, and health sciences.

2. I **examined and outlined** disaster vulnerability in Southeast Asia and Central Europe. For the analysis, I **developed** my own methodological criteria, which can be applied to all kind of disaster risk assessments. In addition, I **found**

that heterogeneity is observed in disaster risk in Southeast Asia, while homogeneity is observed in disaster risk in Central Europe.

3. I **examined** the structure of regional disaster management cooperation in Southeast Asia and Central Europe. In the course of the study, I **identified** standards specific to Southeast Asia that can be found in the ASEAN regional disaster management system. For the research, I **developed** my own methodology, which can be applied to examination of all kind of inter-state disaster management cooperation.

4. I **contributed** to the development of the disaster diplomacy theoretical framework. I **created** my own analytical structure, with which I **supplemented** the methodology, and also **pointed out** the questionable elements of the disaster diplomatic application of the widely used CAS methodology. Furthermore, I **performed** a comparative analysis of the disaster diplomacy processes in the Southeast Asian region, I **explored** the possible adaptation elements.

5. From the disaster diplomacy elements explored in Southeast Asia, I **selected** the components applicable in Central European perspective. With my own analysis, I **developed** the elements of a potential adaptation for disaster management cooperation in Central Europe.

Recommendations

I recommend the results formulated in my dissertation to the attention of academic researchers regarding disaster management. The theoretical concept and methodological background used in my dissertation can serve as a guide for the development and implementation of modern disaster research.

The results in my dissertation can be useful for politicians, diplomats, and civil servants dealing with Southeast Asia, who can learn about the background of the region's environmental problems and major regional disaster management issues, all of which play an important role in the region.

My dissertation forms an excellent basis for participants in higher education and vocational training, primarily in the field of disaster management, disaster science, and international studies.

I recommend my dissertation for further research, as my results serve as a good starting point for the analysis of regional disaster diplomacy issues.

Practical application of the results

I suggest the practical application of the research results as follows.

In my opinion, my research results can be used primarily in the field of disaster science. Finding the theoretical background needed for the research and compiling the framework is essential for modern academic research. The theoretical chapter of my dissertation carries out such work, which can serve as a guide for the analysis of other subfields as well.

In addition, the general lack of research methodological elements is a major shortcoming in the field of disaster science. The methodological framework compiled in my dissertation thus expanded in practice the research methodological framework of the discipline of disaster science, which can provide important help for the study of other regions or other fields in the future.

In addition to the academic sphere, the revealed scientific results also contain elements that can be used in practice for Central European disaster management professionals.

List of the author's publications regarding the subject

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Curriculum Vitae

Bendegúz Papp was born on August 14, 1993 in Győr. He completed his high school studies at the Gergely Czuczor Secondary School in 2012. Between 2012 and 2015, he studied at the Károli Gáspár University of the Reformed Church, majoring in Japanese Studies and Applied Linguistics. In 2017, he obtained a degree in East Asian Studies at the joint master's program of Pázmány Péter Catholic University and Corvinus University of Budapest. Since 2017, he has been a student at the Doctoral School of Police Science and Law Enforcement at the National University of Public Administration.

Mr. Papp publishes on a regular basis. In leading Hungarian journals, ten articles in Hungarian and three in English were published under his name. At an international level, he also published four journal articles, one in Q3 and one in Q2 journals. He is a co-author of an international book chapter indexed by the Scopus database at Elsevier Publishing.

Mr. Papp has received several international scholarships as well. In 2016, he spent four months at the Yogyakarta State University in Indonesia with a scholarship focused on the Indonesian language. In 2017, he received a short scholarship in Japan from the Ministry of Foreign Affairs, where he participated in cultural diplomacy lectures. In 2018, he won a one-month Campus Mundi Research Fellowship at Dhakka University in Bangladesh and in 2019 at the Asian Institute of Technology in Thailand. Twice, in 2017 and 2019, he received the New National Excellence Program of the Ministry of Information and Technology. The results of opportunities have all led to academic publications.

Mr. Papp takes regularly part in teaching and educational tasks. Since 2018, he has been giving regular lectures at the Institute for Disaster Management of the National University of Public Service and at the Faculty of Engineering of Széchenyi István University. He was a student jury member twice at the Institutional Student Conference of NUPS, and he was a jury member twice at the Law Enforcement Section of the National Scientific Students' Associations Conference.

Mr. Papp holds a C1 exam in English, B2 exams in Japanese and German. He also speaks basic Italian, Chinese, and Indonesian.

