First Conference on Effective Response

Conference Proceedings
Sopron, 15th November 2019

MAGYAR VÖRÖSKERESZT
HUNGARIAN RED CROSS

IRONORE 2019

Co- funded by
European Union
Civil Protection

Edited by:
András Molnár

Chair of Conference Committee:
Dr. habil Júlia Hornyacsek, PhD
Associate Professor
National University of Public Service

Secretary of the Conference Committee:
András Molnár
Disaster Preparedness Focal Point
Hungarian Red Cross
Research Associate
Center for Policy Studies, Central European University

Members of Conference Committee:
Dr. Brigitta Sáfár, PhD
Head of Disaster Management
Hungarian Red Cross

Dr. Tamás Tímár, PhD
Major
Disaster Management Operational Service Békés County Disaster Management Directorate

Peer reviewers (in alphabetic order):

István Endrődi

Júlia Hornyacsek

Saumya Kumar

András Molnár

Brigitta Sáfár

Árpád Sebestyén

Tamás Tímár

ISBN (e-book): 978-963-7500-81-7
Hungarian Red Cross

Budapest, 2020

Graphics and pagination by F6 For Sustainability Association

This e-book is published within the framework of the project IRONORE 2019. The project is co-financed by the European Commission under the contract UCPM-2018-EX-AG-828918.

Co- funded by European Union Civil Protection

Cover: HUN-2 HUSZAR rescues a trapped person and hands over to Red Cross in a simulated tunnel accident during IRONORE2019 field exercise, Eisenerz, Austria. Photo: A. Molnár

Table of contents

Keynote address by **Seija Tyrninoksa** 2

Foreword by **István Kardos** 6

András Molnár: Perspectives on the new challenges in disaster management – considering social vulnerability and building on resilience 8

Brigitta Sáfár: The role of humanitarian assistance in resilience development – an innovative research area 15

Árpád Sebestyén, Zsuzsanna Kovács: Importance of disaster crisis intervention to survivors and rescue and relief workers in emergency management 24

Simona Ius, Egidio Pelagatti, Valentina Bruchi, Giulio Alessandro Mazzocco, Maria Luisa Rossi: The ANPAS model of psychological support in emergency 32

Rohit Ghanbahadur: To test the effective implementation of Comprehensive School Safety Framework provided by GADRRRES in Government run Schools in Delhi, a case study intervention by Save the Children, India 41

Tamás Tímár: Innovative Technologies at the disater management services – Fire protection research area 61

Camilo Palacio Ramirez: Assessing new technologies for Disaster Management: Lessons learned when applying the TGM during a civil protection exercise 67

Réka Kirovné Rácz: The Correlation of Climate Change and Extreme Weather Events .. 80

Balázs Kern, György Leskó: Human ecological approach of the research and development network building, in the Danube catchment area. 85

Júlia Hornyacsek: Die steigerung der widerstandsfähigkeit der bevölkerung gegen die folgen des extremen wetters 95

Ágnes Túriné Barta, Tamás Hábermayer: Die Öffentlichkeitstätigkeit des ungarischen Katastrophenschutzes 107

Keynote address

Seija Tyrninoksa
Deputy Regional Director a.i.
IFRC Regional Office for Europe
seija.tyrninoksa@ifrc.org

Sopron, 15th November 2019

Dear distinguished guests, colleagues and friends, it is a pleasure to open this conference on effective humanitarian and civil protection response.

The International Federation of Red Cross and Red Crescent Societies (IFRC) has a membership of 190 National Societies around the globe, maintains five regional office in Asia-pacific/KL, Africa/Nairobi, Americas/Panama; MENA/Beirut; Europe/Budapest; Europe Regional Office has a coverage of 53 countries in Europe and Central Asia.

The conflict in Afghanistan, the floods, storms and population movement along the countries of Mekong river in South-east Asia, the epidemics, disasters and population movement in Southern Africa and our smaller scale disasters in Europe, but including the massive population movement to Europe, this all has been and continue to be part of our working life and I have personal experience on all these disasters mentioned above when working with the Red Cross.

Disaster and climate risk reduction has been **one of IFRC's key focus areas** over the past three decades. Today, 100-year old IFRC is one of the biggest disaster risk reduction actors in the world. These 190 National Red Cross and Red Crescent Societies around the world, including the Hungarian Red Cross here in Hungary or the Austrian Red Cross in our neighbouring country Austria, are present before, during and after emergencies and, as auxiliaries to the public authorities in the humanitarian field, are in a unique position **to assist in, advise on and advocate** for climate action and disaster risk reduction. With its millions of members and volunteers living in every corner of the globe, IFRC has the potential to stimulate real and practical action on an unparalleled scale, globally.

Our **vision** is that vulnerable communities across the world are more resilient and better prepared for disasters and climate change impacts now and in the future. When we look back in the year just passed, the IFRC network invested **207 million USD (207 million Swiss francs)** on disaster risk reduction and climate adaptation projects in 2018, reaching 52 million people

in 160 countries. Acknowledging a dramatic increase in climate-related emergencies and the important role that disaster risk reduction plays in averting disaster impacts, **a massive scale-up in climate action and disaster risk reduction** in the most vulnerable communities is required around the globe in the coming years.

IFRC will therefore seek to mobilize **a significant scale-up in community-led disaster risk reduction and climate action by the end of 2020**, leading to an increase in the number of people supported and countries of operation, and an increase in investment and partnerships at all levels. **In 2020, the IFRC network will seek to reach 100 million people**.

In September the IFRC issued a new report **"The Cost Doing Nothing", with key findings** suggest **three main** points:

1. **ESCALATING SUFFERING**: The number of people affected by climate change and needing international humanitarian assistance could almost double by 2050.
2. **BALLOONING COSTS**: Under the most pessimistic scenario presented in this report, the price of responding to rising needs as a result of climate change will rise from between 3.5 -12 billion US dollars today to 20 billion US dollars per year by 2030.
3. **CLIMATE CHANGE IS A DOUBLE THREAT**: Climate change poses a unique double threat to vulnerable communities: It leads to more frequent, intense and unpredictable extreme weather events like floods, droughts and extreme heat. Its macroeconomic impacts could reduce incomes and resilience among the world's poorest, leaving them less able to manage shocks and more reliant on international assistance. The findings presented in the report are likely to be underestimates. The report does not consider how climate change may affect the drivers of conflict, or the potential future impacts and cost of epidemics or heatwaves. The true cost of doing nothing could be much higher. There is still time to do something. The report shows that investment in climate adaptation can greatly reduce the impacts of climate change, especially when adaptation measures prioritize the poorest and most vulnerable.

The report does not just present the problem, but proposes **actions** in **three areas**:

1. **REDUCE LONG-TERM VULNERABILITY AND EXPOSURE**: Stronger buildings, more resilient infrastructure, and dedicated infrastructure like dikes and pumping stations can protect people and economies and reduce the likelihood of a climate hazard becoming a climate disaster.
2. **ANTICIPATE DISASTERS, IMPROVE EARLY WARNING AND STRENGTHEN EMERGENCY RESPONSE**: There will continue to be a need to respond to disasters, but the way aid groups and governments do this can be drastically improved. Two points are crucial: 1) more emphasis on early warning systems that reach vulnerable communities, and new, creative mechanisms for financing humanitarian response before a disaster strikes.
3. **REBUILD AND REPAIR WITH THE NEXT EMERGENCY IN MIND**: The steps that are taken after a climate emergency can greatly reduce the impact of future hazards. Taken together, these measures will save money and, most importantly, save lives and reduce suffering for millions of people.

The IFRC also develops **Guidance documents** that help National Societies to cope with the different climate hazards. In the past years, several of these documents have been published, including:

1. Guidance Note for RCRC National Societies' National Level Engagement in Climate Action with their respective governments and other stakeholders.
2. The **City Heatwave Guide** has been launched in July this year. It helps cities prepare for heatwaves, since heatwaves are one of the deadliest natural hazards facing humanity, and the threat they pose will only become more serious and widespread as the climate crisis continues. We have experienced this also in Europe in summertime. Heatwaves are predictable, and their impacts are preventable through relatively simple and affordable actions.
3. The **Red Cross Red Crescent Climate Centre,** based in the Netherlands, launched an expanded version of its principal training resource for National Societies, the **Climate Training Kit**. The new kit incorporates many additional modules and tools, including content covering cities and young people.

As further international outlook, it is important to mention, that **a Risk-informed Early Action Partnership** (**REAP**) was presented at the recent UN Climate Action Summit in September this year in New York. It was developed through the Summit's Resilience & Adaptation

workstream led by the UK and Egypt. The IFRC has been engaging in the workstream and contributed to the development of REAP regarding **Disaster/climate adaptation laws and policies, Early Action Plans, Early Warning Systems infrastructure, Linkages between Early Warning Systems and Early Action** and will be hosting the REAP Secretariat in Geneva.

In December this year, the 33rd International conference of the Red Cross and Red Crescent Societies will take place from **9 to 12 December** and the IFRC is preparing **a** draft resolution on climate smart disaster laws, and an **Open Pledge on Climate and the Environment**. Is says for example that **"Relief aid must strive to reduce future vulnerabilities to disaster as well as meeting basic** needs".

Coming closer to home - **in Europe**, our emphasis in 2020 will be to support innovative adaptation solutions, initiatives to counter the harmful effects of the changing climate on local community level. The 53 National Societies in the Europe region will be supported **to enhance their capacities** to mainstream climate change adaptation measures into their strategies, policies and projects. Actions could include, yet not exclusively, **conducting evidence-based climate advocacy, building partnerships with research institutions that have developed solutions to address issues of risk and vulnerability, implementation of public awareness and education campaigns, assessing and strengthening community resilience, developing early warnings, Early Actions**. Their capacities will be strengthened through relevant trainings at the country and regional level. And finally - **Forecast-based financing preparedness actions**, through which disasters related to extreme weather conditions (especially floods, extreme cold and heat) can be better predicted and eventually pre-financed, **will be further rolled out in the Europe Region**.

IFRC recently kicked of a new campaign with a spot "Faces of Climate change". Please let me present you this video, which draws attention to the urgency of individual and collective steps.

Thank you for your attention, and wish you a rich discussion!

Foreword

István Kardos
Director General
Hungarian Red Cross
titkarsag@voroskereszt.hu

As one of the 190 members of the International Federation of the Red Cross and Red Crescent Societies, the Hungarian Red Cross always payed special attention cooperating with other organizations. During disasters and other emergency situations, a well-grounded and adequately coordinated cooperation is the key for effective response, also a crucial point during saving human lives and humanitarian aid.

For this reason, we do everything to prepare for emergency situations, in cooperation with professional and voluntary partner organizations, at home and abroad equally, constantly searching new opportunities for this activity. We have a motto at the Hungarian Red Cross, which says: “In preparedness we trust”

In the recent years, we aimed to maintain and develop our preparedness together with our volunteers and partner organizations in a form of nation-wide exercises. A good example of this development, that in 2018 We organized our national exercise together with seven national societies from the surrounding region, and in close cooperation with the National Directorate General for Disaster Management.

I believe, that stepping forward from this point is not an easy task, but We were looking for the opportunities.

As a result of searching opportunities, on the first day of January 2019, the Hungarian Red Cross started the IRONORE 2019 project together with leader of the consortium, the Austrian Red Cross and with the support of the DG ECHO. This cooperation helps the Hungarian Red Cross to take the development process into the next level. In the consortium, the Hungarian Red Cross works together with Austrian and Polish partners. The project won on the tender of EU Civil Protection Exercise, issued by the European Commission’s Directorate-General for European Civil Protection and Humanitarian Aid Operations. It is the second successful Hungarian Red Cross proposal in the history of ECHO.

As part of the project, our National Society will conduct knowledge transfer and exercise management activities with our partners. The project focusing on the simulation of an international assistance after a severe earthquake in Austria. Both the Discussion Based Exercise in June, and the Full Scale Exercise in September was based on this hypothetical situation.

The IRONORE 2019, international disaster response exercise took place between the 12 and 15th of September, 2019 in the framework of European Civil Protection Mechanism. During the exercise, in correspondence with the *Neighbours Helps First Initiative*, among Austrian, German and Slovene units, also Hungarian teams, such as the HUSZÁR Medium Urban Search and Rescue Team, the Budapest Waterworks Hungarian Water Aid Unit, and the Hungarian Red Cross H-HERO Emergency Healthcare Unit proved their preparedness.

The Effective Response conference is also part of the IRONORE 2019 project. Our goal is to examine through scientific findings that how can we respond to emergency situations even more effective. Our speakers introduced different possibilities reducing social vulnerability, the use of innovative technologies related to Effective Response, as well as the new difficulties, in the field of disaster management. Nowadays, the civil protection professionals and humanitarian workers are facing global challenges, such as climate change or new security issues and dangers. To overcome these, we need to join our ideas, discuss concepts and results, and try different ways to find the path. This conference, and this proceedings book is a step towards this.

Perspectives on the new challenges in disaster management – considering social vulnerability and building on resilience

András Molnár
Research Associate
Center for Policy Studies, Central European University

Disaster Preparedness Focal Point
Hungarian Red Cross
andras.molnar@voroskereszt.hu

Introduction

Damages caused by natural disasters are rising all over the world. This tendency is expected to remain in the future: urbanisation is affecting areas located near rivers and seashores, while weather extremes are becoming more severe and more frequent, including storms and heavy precipitation. Hydrological and hydro-meteorological events are the most devastating disasters in Europe: the estimated sum of the economic losses experienced between 1900 and 2013 due floods are around 1,75 Tr USD, while around 20 million people lost their lives during these catastrophes. (Maskey & Trambauer, 2015)

The current disaster management paradigm often uses words leaving an impression that the authorities somehow shepherd the population towards the "expected behavioural forms". Using technological and law enforcement approach, the focus is put to the work of the authorities through the whole disaster management cycle. The overall aim of this is to minimize the physical risks in order to provide safety for the population and its material values. By contrast, an emerging approach takes social-economical aspects into consideration just as well as physical risk factors. The Social Vulnerability paradigm observes and address disasters with an interdisciplinary toolkit in order to reduce vulnerability and enhance the resilience of communities. (Fordham et al., 2013) This emerging paradigm already influenced policies in the Central-Eastern European region, which might be seen in the shift towards voluntary actors and civil society organisations engaged in response activities.

The fact that disasters afflict wealthy and poor people differently is above debates. The unequal distribution of disaster effects is observed both in countries with high economic outputs and in developing countries as well. Therefore it might be surprising that the discourse on particular disaster events mostly neglects social, political or cultural causes. (Oliver-Smith et al., 2016).

It has been demonstrated that disasters take more victims in lower income countries, while high income countries face larger economic losses with lower disaster related mortality. Although overall sum of economic loses are higher in wealthy countries, households in lower income areas have less or no savings, as well as limited access to insurances, therefore the relative financial burden is higher for them. (Sawada & Takasaki, 2017) Akter and Mallick (2013) developed a model describing the connection between poverty, vulnerability and resilience. In this model adaptive capacity, as one of the most important manifestation of resilience is in clear relation with income conditions: a low-income household have limited adaptive capacities as they have limited access to different services. Through their research, they showed that the relative value of losses suffered (value of the losses compared to pre-disaster income) is higher for the households living under poverty threshold than in the upper deciles. (Akter & Mallick, 2013) Another important factor is the availability of information: deprived and marginalized population have less access to both information and resources that are needed to anticipate and respond to a real or perceived threat. (Masterson et al., 2014)

The social vulnerability approach and its implementation

Poverty and the limits of human and physical resources are considered as the most important factors increasing the exposure of developing countries to disaster risks. (Balica et al., 2015) These conditions exist in the underdeveloped regions of high-income countries and in the segregates of prospering areas as well. This is especially true if we consider other means of deprivation: social marginalization can be seen in the forms of disadvantages in education, position in the employment market, dwelling conditions and accessibility of services. These all are circumstances define the opportunities of the individuals, households and communities for preparing for-, and recovering from disasters. (Tedim et al., 2014) In spite of all these, policies of Disaster Management often neglect social aspects. At the same time poverty and segregation processes and patterns led the most deprived groups to occupy areas with the highest risks. (Masterson et al., 2014) Many particular disaster events prove that the most devastating effects are developing in the isolated and marginalized communities, and the roots of these effects can be traced back to poverty and other means of deprivation, such as housing conditions and underdeveloped infrastructure. (Cole, 2004) Disaster prone communities are often stuck in a downward deprivation spiral and are unsuccessful to provide a fundamental level of human security to themselves. (James & Paton, 2015)

In the light of all these many academic and professional communities working on Disaster Risk Reduction realised that their common goal is beyond the humanitarian idea of immediate disaster relief. A new goal has been risen: to assist communities to be resilient and prepared by different means, including alleviation of poverty, good governance and higher well-being. (James & Paton, 2015) Debates on Social Vulnerably has been shifted accordingly from the simple definition of the concept towards the need of reliable metrics and indices. (Rufat et al., 2015) Indices should reflect reality, therefore composite vulnerability indicators should join social, economic, environmental, or engineering aspects. (Balica et al., 2015) As social vulnerability and its related quantification is very context-specific (Fatemi et al., 2017), a need for the establishment of a set of country specific indices can be phrased.

As good governance and collaboration with stakeholders serves an important part of this paradigm, community engagement is more and more researched by scholars and reflected in different policies. In a recent meta-analysis, Batory and Svensson (2019) showed that an important part of the literature investigating collaborative governance published in the recent years cover the topic of floods and risks. (Batory & Svensson, 2019)

Social vulnerability indicators for Hungary

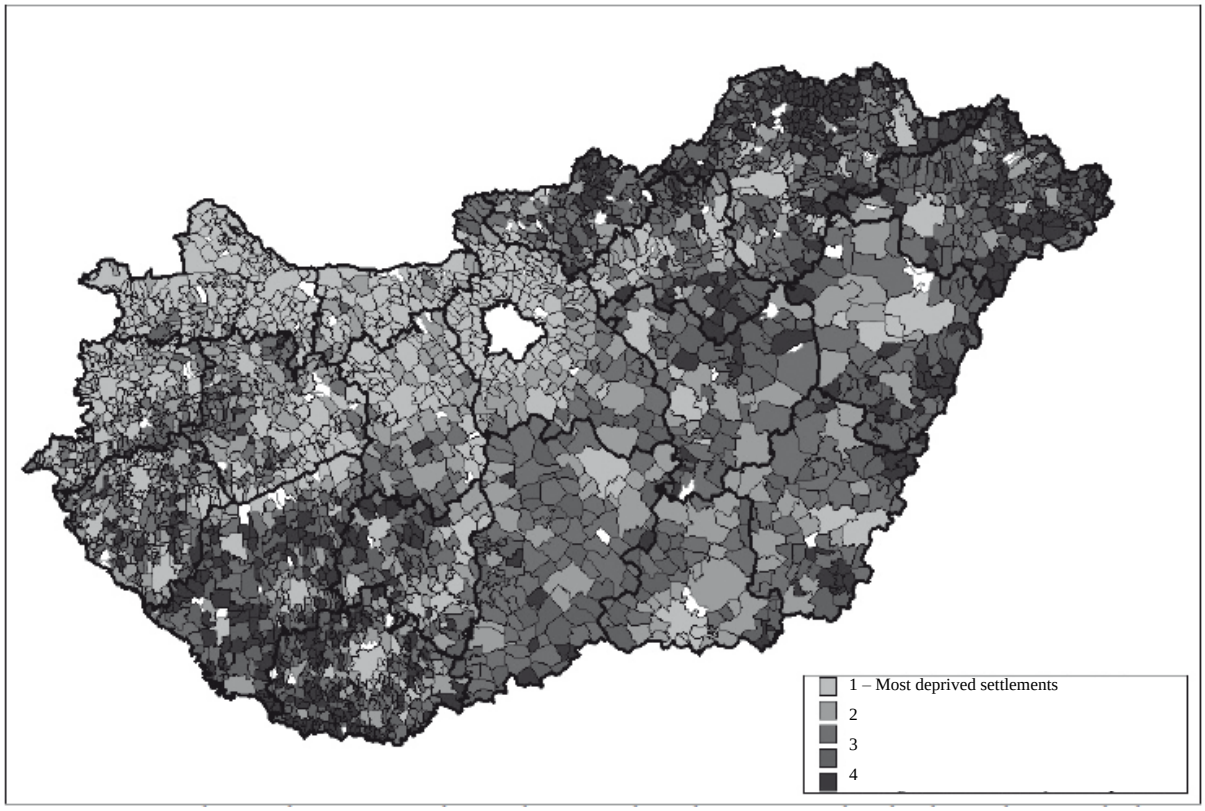
Although deprivation and poverty research have broad literature in Hungary, this section uses Koós's (2015) complex deprivation index for demonstration, as hazards and risks have strong spatial aspect. With this, the following paragraphs aim to shed light on the relevance of the social vulnerability paradigm in the Hungarian context and identifies an opportunity for its measurement.

The Koós Deprivation Index is based on different indices available in municipal level describing different means and layers of deprivation. This includes the following statistical indices describing the different social aspects of the settlements:

- Proportion of unemployed households;
- Unemployment rate (related to active population);
- Proportion of individuals with minimum secondary school graduation;
- Average annual per capita income;
- Proportion of dwellings without comfort-level.

Deprivation index is developed using Principal Component Analysis (PCA), therefore it is a relative index that shows the relation of the different settlements to the National average (excluding Budapest, the Capital City). (Koós, 2015)

It is worth comparing the Koós Deprivation Index with the meta-analysis of Rufat et al. (2015) researching the different indices of Social Vulnerability. The study examines 67 case studies with different indicators related to flood vulnerability. (Rufat et al., 2015) Based on its findings, we can state that the Koós Deprivation Index is a composite index in line with the mainstream of Social Vulnerability researches, that includes the second most used economic component and the housing component. (Molnár, 2017) It is also important to highlight, that the Koós Deprivation Index does not reflect on the most used demographic indices (for example average age, fertility, mortality), while components related to health status are also missing.



1. figure: Municipal deprivation in Hungary, 2011. (Source: Koós (2013)

The resolution of the index falls to the municipal level, which is also the level of the regulatory Municipal Risk Classification process. (Tóth et al., 2012) However, some components are missing from the Koós Deprivation index, this provides an opportunity to integrate social aspects into risk assessments and form a composite system of indices as Balica et al. (2015) suggested. One challenge with this is the fact that the Koós Deprivation Index is census based,

which happens in every ten years, therefore quick societal changes (eg. caused by financial crises) could be not reflected immediately with it.

Participatory engagement in Disaster Planning

Literature on the participatory engagement related to Disaster Management is somehow limited in the Hungarian context. As Hungary recently shifted towards more support and involvement of voluntary actors, many scholars investigated the role volunteers and volunteer rescue organisations in the past years (see eg. Endrődi, Csepregi, & Teknős, 2014; Hábermayer, Hornyacsek, & Muhoray, 2018; Nováky, 2015; Nováky & Endrődi, 2016; Plébán J., 2016). With the establishment of central, county, micro-regional and settlement level volunteer rescue groups, the topic is also popular among bachelor and master students.

Public awareness and education have been also researched by scholars, searching for new and effective ways to pass knowledge on risks and develop skills to cope with adverse effects. (see eg. Bányász, 2013; Bonnyai, 2013, 2014; Hornyacsek, 2008, 2011b, 2011a; Hornyacsek & Hülvely, 2009; Kovalovszki & Papp, 2018; Mógor, 2010; Veresné Hornyacsek, 2004). In this proceedings book, Túriné Barta and Hábermayer (2020) demonstrates the public communication activities of the Hungarian disaster management authorities, including social media, which opened new opportunities to interact with citizens.

Despite these two trending topics, volunteering and awareness raising, other societal aspects of disasters, risks and hazards, as well as participatory involvement of the affected population are rarely represented in Hungarian disaster researches. In a case study of a dyke development, Kispál and Nagy (2017) showed the importance of people's perception of hazards and risks in planning, and highlighted that more involvement of the local population would be beneficial during such developments. As presented later in this book, Sáfár (2018) extensively demonstrated the role of the Red Cross movement in resilience development for local communities. To implement theoretical frameworks, the Hungarian Red Cross put emphasis on the local communities in their resilience development programmes. (Molnár & Devaney, 2016)

A way forward

This editorial perspective aims to give a short insight on a trending approach in international disaster research literature, and to highlight the importance to involve different disciplines into the relevant discussions. Choices effecting risks and vulnerability are made by people, and

institutions dealing with disasters are socially, culturally and politically constructed. As Oliver-Smith (2013) phrased in an editorial piece, it is a matter of choice if we turn towards a real adaptation, which reflects more on human behaviour. In the time of new challenges like climate change, societal changes and ICT revolution, we must open to new approaches and other fields of interests.

Therefore, we made the Effective Response conference an interdisciplinary endeavour. We invited scholars and practitioners from all over the world, representing a wide range of disciplines and organisations. Without the need for completeness: civil servants, disaster management professionals, psychologists, IT and innovation experts, public policy researchers, engineers, social science scholars represented research institutions, public authorities and private entities.

This conference proceedings e-book includes papers from presenters of the event, reflecting the need for interdisciplinary and collaborative discussion. The following papers demonstrate practical challenges, theoretical questions and results from research projects and field activities. We trust that this initiative is a starting point to motivate further interdisciplinary research in the field of disasters. Hungarian Red Cross continues to motivate researchers of civil protection, public administration, psychology, sociology, anthropology, economics, natural sciences, engineering, and further fields, to be engaged in disaster related researches.

References

Akter, S., & Mallick, B. (2013). The poverty-vulnerability-resilience nexus: Evidence from Bangladesh. *Ecological Economics*, *96*, 114–124. https://doi.org/10.1016/j.ecolecon.2013.10.008

Balica, S. F., Dinh, Q., & Popescu, I. (2015). Vulnerability and Exposure in Developed and Developing Countries: Large-Scale Assessments. In P. Paron & G. Di Baldassare (Eds.), *Hydro-Meteorological Hazards, Risks, and Disasters* (pp. 125–162). Elsevier.

Bányász, P. (2013). A közösségi média szerepe a települések életében, kiemelten a rendkívüli események kezelésében. *Településföldrajzi Tanulmányok*, *2*(2), 137–145.

Batory, A., & Svensson, S. (2019). The fuzzy concept of collaborative governance: A systematic review of the state of the art. *Central European Journal of Public Policy*, *13*(2), 28–39. https://doi.org/10.2478/cejpp-2019-0008

Bonnyai, T. (2013). A lakosságfelkészítés lehetséges módszertana a létfontosságú rendszerek és létesítmények védelmének rendszerében. *Hadmérnök*, *VIII*(3), 58–73. http://hadmernok.hu/133_07_bonnyait.pdf

Bonnyai, T. (2014). *A kritikus infrastruktúra védelem elemzése a lakosságfelkészítés tükrében* [Nemzeti Közszolgálati Egyetem]. https://doi.org/10.17625/NKE.2015.001

Cole, S. (2004). Geohazards in Social Systems: An Insurance Matrix Approach. In Y. Okuyama & S. E. Chang (Eds.), *Modeling Spatial and Economic Impacts of Disasters* (pp. 103–118). Springer.

Endrődi, I., Csepregi, P., & Teknős, L. (2014). *Az önkéntes polgári védelmi erők új dimenziója , avagy a magyar Felsőoktatási Intézmények Önkéntes Mentőszervezeteinek megalakításának szükségessége , jelentősége a hazai katasztrófavédelmi rendszerben*. http://www.vedelem.hu/letoltes/anyagok/532-onkentes-mentoszervezetek-a-felsooktatasi-intezmenyekben-tudomanyos-dij-2014.pdf

Fatemi, F., Ardalan, A., Aguirre, B., Mansouri, N., & Mohammadfam, I. (2017). Social vulnerability indicators in disasters: Findings from a systematic review. *International Journal of Disaster Risk Reduction*, *22*, 219–227. https://doi.org/10.1016/j.ijdrr.2016.09.006

Fordham, M., Lovekamp, W. E., Thomas, D. S. K., & Phillips, B. D. (2013). Understanding social vulnerability. In D. S. K. Thomas, B. D. Phillips, W. E. Lovekamp, & A. Fothergill (Eds.), *Social vulnerability to disasters* (pp. 1–32). CRC Press.

Hábermayer, T., Hornyacsek, J., & Muhoray, Á. (2018). Katasztrófavédelmi önkéntesek motiváció kutatása a védekezések hatékonyságának növeléséhez. *Hadmérnök, XIII.*(2), 159–171. http://www.hadmernok.hu/182_12_habermayer.pdf

Hornyacsek, J. (2008). A lakosság önvédelmi készsége növelésének gyakorlata 1. *Polgári Védelmi Szemle*, *2*, 53–63. http://www.mpvsz.hu/letoltes/pvszemle/pv2008_2.pdf

Hornyacsek, J. (2011a). *A települési védelmi képességek a katasztrófa-kihívások tükrében* (1th ed.). "Biztonságunk érdekében" Oktatási- és Tanácsadó Tudományos Egyesület. http://www.drhornyacsek.hu/sajat publikaciok/vedelmi kepessegek.pdf

Hornyacsek, J. (2011b). Földrengés! fel vagyunk készülve? *Hadmérnök*, *VI.*(1), 276–295. http://portal.zmne.hu/download/bjkmk/kmdi/hadmernok/2011_1_hornyacsek.pdf

Hornyacsek, J., & Hülvely, L. (2009). A lakosság önvédelmi készsége növelésének gyakorlata 2. *Polgári Védelmi Szemle*, *1*, 124–140.

James, H., & Paton, D. (Eds.). (2015). *The Consequences of Disasters : Demographic, Planning, and Policy Implications*. Charles C Thmas Publisher LTD.

Kispál, J., & Nagy, G. (2017). A biztonság, mint szubjektív tényező a városfejlesztésben – esettanulmány Szolnok város példáján. In G. Keresztes (Ed.), *Tavaszi Szél 2017 / Spring Wind : Tanulmánykötet* (pp. 324–338). Doktoranduszok Országos Szövetsége. https://doi.org/10.23715/TSZ.2017.3

Koós, B. (2015). A szegénység és depriváció a magyar településállományban az ezredfordulót követően – avagy kísérlet a települési deprivációs index létrehozására. *Tér És Társadalom*, *29*(1). https://doi.org/10.17649/TET.29.1.2681

Kovalovszki, K., & Papp, B. (2018). Lakosságfelkészítés japánban a tokiói rinkai katasztrófamegelőzési park látogatása kapcsán. *Hadmérnök*, *XIII.*(2), 191–200.

Maskey, S., & Trambauer, P. (2015). Hydrological modeling for drought assesment. In P. Paron & G. Di Baldassare (Eds.), *Hydro-Meteorological Hazards, Risks, and Disasters* (pp. 263–282). Elsevier.

Masterson, J. H., Peacock, W. G., Van Zandt, S. S., Grover, H., Schwarz, L. F., & Cooper Jr., J. T. (2014). *Planning for Community Resilience : A Handbook for Reducing Vulnerability to Disaster*. Island Press. https://doi.org/10.5822/978-1-61091-586-1

Mógor, J. (2010). *A lakossági tájékoztatás és a nyilvánosság biztosításának kutatása a súlyos ipari balesetek elleni védekezésben*. Zrínyi Miklós Nemzetvédelmi Egyetem.

Molnár, A. (2017). A társadalmi sérülékenység vizsgálatának lehetőségei Magyarországon. In Z. Futó (Ed.), *Magyar vidék - Perspektívák, megoldások a XXI. században* (pp. 261–269). Szent István Egyetem.

Molnár, A., & Devaney, L. (2016). *Közösségi Reziliencia Városi Környezetben* (A. Molnár (Ed.)). Magyar Vöröskereszt. http://www.mek.oszk.hu/16400/16467/index.phtml

Nováky, M. (2015). Önkéntes mentőszervezetek alkalmazásának lehetőségei. *Pécsi Határőr Tudományos Közlemények*, *XVI.*, 325–331. https://doi.org/10.17047/HADTUD.2016.26.1-2.75

Nováky, M., & Endrődi, I. (2016). Polgári védelem és az önkéntesség. *Védelem Tudomány*, *I.*(4.), 271–283. https://vedelemtudomany.hu/?pageid=archive_articles&evfolyam=I&szam=4&ev=2016&ho=12

Oliver-Smith, A. (2013). A matter of choice. *International Journal of Disaster Risk Reduction*, *3*(1), 1–3. https://doi.org/10.1016/j.ijdrr.2012.12.001

Oliver-Smith, A., Alcántara-Ayala, I., Burton, I., & Lavell, A. (2016). The social construction of disaster risk: Seeking root causes. *International Journal of Disaster Risk Reduction*. https://doi.org/10.1016/j.ijdrr.2016.10.006

Plében J., K. (2016). A települési önkéntes mentőcsoportok védekezésének feltételrendszere. *Hadtudomány*, *1*(2), 75–85.

Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, *14*, 470–486. https://doi.org/10.1016/j.ijdrr.2015.09.013

Sáfár, B. (2018). *A humanitárius segítségnyújtás elméleti és gyakorlati kérdései a Vöröskereszt nemzetközi tevékenységének tükrében*. National University of Public Service.

Sawada, Y., & Takasaki, Y. (2017). Natural Disaster, Poverty, and Development: An Introduction. *World Development*, *94*, 2–15. https://doi.org/10.1016/j.worlddev.2016.12.035

Tedim, F., Garcin, M., Vinchon, C., Carvalho, S., Desramaut, N., & Rohmer, J. (2014). Comprehensive Vulnerability Assessment of Forest Fires and Coastal Erosion: Evidences from Case-Study Analysis in Portugal. In J. Birkmann, S. Kienberger, & D. E. Alexander (Eds.), *Assessment of Vulnerability to Natural Hazards : A European Perspective* (pp. 149–178). Elsevier.

Tóth, F., Harmati, I., & Cseh-Szakál, T. (2012). Kockázatbecslési eljárás - Településeink veszélyeztetettsége. *Védelem Online*, *March*. http://www.vedelem.hu/letoltes/anyagok/430-kockazatbecslesi-eljaras-telepuleseink-veszelyessege.pdf

Túriné Barta, Á. (2020). Die Öffentlichkeitstätigkeit des ungarischen Katastrophenschutzes. In A. Molnár (Ed.), *First conference on Effective Response*. Hungarian Red Cross.

Veresné Hornyacsek, J. (2004). Katasztrófavédelem és közoktatás. *Új Pedagógiai Szemle*, *54.*(1.), 114–121. http://epa.oszk.hu/00000/00035/00078/2004-01-mu-Veresne-Katasztrofavedelem.html

The role of humanitarian assistance in resilience development – an innovative research area

Brigitta Sáfár Dr., PhD
Head of Disaster Management
Hungarian Red Cross
brigitta.safar@voroskereszt.hu

Introduction

Over the past decades the frequency of disasters, their devastating effects and the number of fatalities has increased throughout the world. This growth is apparent despite the increasing efforts of governmental organizations and NGOs to protect the population and the environment from the destruction of disasters. Governments and professional disaster management organizations face a growing challenge by the ever-increasing number of disasters, so there's a growing need for the involvement and support of international and local humanitarian organizations all over the world (Mackintosh, 2010). The question is how humanitarian organisations can contribute to reduce the impact of risk factors, and how can the efficiency of their activities be improved (Maurer, 2014). What are the attributes that make them appropriate for this function?

Protecting the population against dangers is an old endeavour. Its modern form is the "resilience" of individuals and communities. It is important to determine what resilience means (Hornyacsek, 2017), what are its features, by what programs it is served, and how humanitarian organizations can contribute to this. The existence of capacities against threats is an important factor in the defense work, since immunity depends on the ratio of potential impacts and existing capacities (Muhoray, 2016). It is important to see how humanitarian workers can measure the capacity of communities to support decision making processes for the organizations responsible for defense (Bennett, 2016). The elements of the capacity that contribute to the mitigation (Hornyacsek, 2017) of damages and reduction of losses are still to be determined. It is important to define the capabilities of humanitarian organizations to supplement and support defense work, and the areas of defense in which they can be applied.

I have been researching for more than 10 years the role and mission of humanitarian organizations in increasing resilience of the population. I found that community resilience measurement and strengthening activities have not yet been thoroughly examined by the perspective of humanitarian assistance. Accordingly in the course of my research, I examined

the phases of humanitarian aid and its impact on the population. I regularly published partial results of the research and finally I concluded it in my doctoral dissertation in 2018.

The roles and responsibilities of humanitarian organizations in resilience development

The oldest humanitarian organization is the Red Cross, with a clear perception of the changes in the world and the demands of governments, focusing on preparedness and response in its long-term strategies. The International Federation of Red Cross and Red Crescent Societies and the International Committee of the Red Cross cover almost all countries in the world so their reaction can be immediate and adequate in case of a potential crises. An important feature of the Red Cross is that the National Red Cross / Red Crescent Societies are present on the premises of the disaster before, during and after the events, and when a disaster exceeds the national capabilities they can request the assistance of the international network of the Red Cross, which can increase the response rate and mobilize supporting forces according to the degree of the disaster and the damages caused. Disaster response systems of the Red Cross Movement respond to challenges as quickly as possible, with their help immediate supply of information, assessment of situation and coordination, rescue, recovery and relief can also be managed (Maurer, 2014). Both unit volunteers and staff are highly-qualified and can provide effective and worldwide assistance in short notice according to plans prepared beforehand. Therefore the scientific examination of the Red Cross's activites can provide an adequate basis for the practical approach of humanitarian work and the deduction of conclusions for further exploitation.

Roles and possibilities of the Red Cross, the oldest and largest international humanitarian organisation, change according to the continuously varying challenges. The question is what new activities, actions and programs are required to be implemented or adapted for the Red Cross to respond to humanitarian needs adequately. Furthermore, what are the features that can increase the efficiency of humanitarian work, what are the principles by which it is executed and what abilities make the Red Cross suitable for the task (IFRC, 2015). Analysing concrete hazards, the conclusion is that climate change ranks amongst the greatest global programs of today, against which and in favour of adaptation all organizations should act. In this context it is important to investigate how do the Red Cross, as the largest humanitarian organization, respond to this challenge and how can humanitarian organizations contribute to protecting and preparing the population?

Scientific approach of the above issues can give answers and results that can serve the purposes of humanitarian work, increase the efficiency of humanitarian organisations, thereby increasing the immunity of the population against emergencies and in the same time strengthening the support of defense organizations.

Examining different perspectives leads to find new ways to update the methodologies of long-term humanitarian assistance. Through the example of the Red Cross, I made an overview on the milestones of the development of humanitarian aid in order to reveal general and special needs of the population. For further strategies it is important to take into consideration this complete picture of the organization, structure and capabilities, and also the development of the Red Cross in order to identify the necessities for the renewal in the effective humanitarian work to meet the challenges of modern days. Examining the trends in the development of disasters, and their effects, and the fundamentals of humanitarian aid needed in order to identify the most effective disaster management methods.

Therefore it is crucial to review and methodize resilience as a new concept according to different layers of society, with the aim of using the results in the preparation of communities for emergencies in the future and to explore the potential in resilience programs (UNDP, 2014), focusing on new environmental challenges, climate change and health risks (Bennett, 2016). In my researches I examined the hypothesis that the Red Cross's practice for community resilience is effective and can easily be adapted and provides a solid foundation for capacity assessment and decision support. Considering the results of the analysis and evaluation of psychosocial needs of the population, it is necessary to highlight the importance of psychosocial support and the protection of aid workers, so as to include it in the preparation programs to increase chances of survival, and focusing on the protection of children, the most vulnerable part of the population (Maurer, 2014). As a result of my researches I developed a methodology for measuring vulnerability and capacity of communities, and I propose a methodology for the survey.

Hypothesis and research methodologies

During my research I listed a set of hypotheses. I assumed that by reviewing the milestones of the evolution of the Red Cross it is possible to identify the capabilities that make it able to support the work of public enforcement bodies, and to determine the framework for future development. Furthermore, the Red Cross, in addition to its current strategy and response

system, will need to adapt and implement new activities, measures and programs in order to meet the requirements in fulfilling humanitarian needs. I assume that the humanitarian preparedness program of the Red Cross is an effective support for the different communities, in developing their own resources to help others and themselves, as a part of the network. I believe that the improvement of the emergency response and health care units of the Red Cross is indispensable to reduce disasters risks and to enhance efficiency of preparedness and intervention. I presume that individual and social resilience can only be approached and interpreted as an integrated system. Psychosocial assistance has a significant impact on resilience, its principles, methods, and tools can easily be defined by observing current practice of the Red Cross, and by their identification effective support can be provided to other humanitarian organizations. I assumed that the improvement of individual and community resilience is a complex process, based on identifying areas of vulnerability and defining factors that enhance resilience by the means of capacity assessment.

During my research I employed various research methods to achieve the research objectives. Mainly general research methods were used for my work, including analysis, synthesis and adaptation testing. For the logical conclusions both induction and deduction method were used. In collecting the data I used the "one source is not enough" principle, that is I compared at least two sources and I tried to divide the research into logical segments to analyse data completed with my and my colleagues experiences in the Red Cross Movement. I studied Hungarian and international scientific literature and legal environment related to the topic. The publications were categorized according to the research guidelines using analytical methods and then I synthesized theoretical and practical findings. I consulted with local and international experts that gave me the opportunity to participate in the Resilience Program of the IFRC. I applied logical comparative analysis to the basic general definitions of the research (resilience, community resilience, individual resilience, domino effect) depending on the approach of the definition. Az an external expert I participated in the EU project "Snowball - Cascading Effects", in which I examined the individual's behaviour as a catalyst in a potential domino effect and I used during drawing conclusions. I have tested the proposed methods in practical application in case of various disasters in Bosnia (2010), in Haiti (2013) and during the floods in the Balkan (2014). Results of my research were published in professional publications, national and international conferences in Hungarian and English, and I have included the opinions into my conclusions and propositions.

The process of the research

The first part of my dissertation is on one hand a brief overview of the circumstances of the foundation of the Red Cross Movement and examines the steps that were necessary to protect the population and lead to the humanitarian aid activities at present. I analysed the Geneva Conventions as the cornerstone of international humanitarian regulations regarding civilian protection, and unfold the Principles that define present-day humanitarian aid. In this chapter I studied the activities of the International Committee of the Red Cross, its efforts in civilian protection, humanitarian rights and modern, ethical humanitarian aid, mainly the current activities (Mackintosh, 2010). Besides, I highlighted the steps and renewal necessary to face changing challenges. Hereafter I presented of the activities of the International Federation of Red Cross and Red Crescent Societies, focusing on the potential in disaster response activities. I analysed the key elements of preparedness and response, highlighting the methods used in international humanitarian aid (IFRC, 2015). I analysed the standard response and technical support systems used in disasters and other crises (Twigg, 2015), and the responsibilities of the IFRC and Red Cross / Red Crescent National Societies during a disaster or emergency event, examining the potential of international and national capacities. In the most important chapter I unfolded the concept, the elements and development possibilities of resilience. I analysed the factors influencing the use of community resilience programs and the aspects of forming the most effective and progressive methods of community preparation (UNISDR, 2015). I examined the results of the community-based preparation on the network of the Red Cross, and the improvement possibilities of current methods regarding new challenges (IFRC, 2015). I presented the interpretation of community resilience programs in complex humanitarian education. Through an overview of the origins of individual resilience (Kelman, 2016) and psychosocial health, I presented the importance of psychosocial aid in case of disasters, examining the events that affect psychosocial health, individual coping strategies, and the possibilities of recovering psychosocial health (Bossetti, 2015). I defined psychosocial needs of the individual, the aid workers, and the children as group with special needs, categorizing methods for restoring psychological balance. I analysed the function of psychosocial resilience programs and their impact on the psychosocial health of individuals and communities (Griffith, 2016). Finally, I examined measuring methods for the preparedness regarding vulnerability and capacity. defining the concept of vulnerability and capacity (Baudoin, 2016), and developing the model of processes, tools and methods that can be used in the survey. I defined the process of the development of an effective and efficient humanitarian program, highlighting the difficulties in vulnerability and capacity assessment, planning and implementation (Béné, 2013), and I made suggestions for the project-oriented application of program development.

Looking at the circumstances of the foundation of the Red Cross Movement I found that the Movement was the first worldwide initiative to prevent human suffering and to unify humanitarian aid. I determined the actions required in humanitarian aid to face new challenges and the development and changes needed to be executed for the Red Cross to preserve its achievements in humanitarian aid. Within these the most important points are the trainings and standard operating procedures related to safety and security.

Overviewing present-day humanitarian challenges, I found that the success of humanitarian operations depends predominantly on the consideration of new security challenges. I suggested regarding security aspects of preparation and aid to develop new forms of preparations and actions, reaching new agreements and revising existing ones by humanitarian organizations – primarily the Red Cross – on global and national scales.

Looking at the tasks of the International Federation of Red Cross and Red Crescent Societies, I proved that in the past decades the focus of Red Cross activities was the people whose vulnerability increased dramatically due to an unexpected disaster or crises. Overviewing the activities, I revealed that the prevention of suffering lies in the thorough understanding of local communities, helping the population to face challenges, and avoid dangerous situations that might increase their vulnerability. I proved that the reduction of vulnerability and the improvement of capacity could ease the suffering of those whose socioeconomic security and human dignity is subject to constant threats and disaster.

Analysing the disaster response mechanism of the International Red Cross and Red Crescent Societies from financial assistance to the task of sector-specific technical assistance units, I found the unique ability of cooperation between the units of the worldwide network in any part of the world within 48 hours, thanks to the standardized operations, providing prompt help to communities in need. I revealed that different intervention units operated by National Societies – considering international standards, quality requirements and regulations – can take part of an international humanitarian aid if necessary, because of their professional background and their wide knowledge on international humanitarian assistance. I made a suggestion regarding the technical development of the emergency health care unit called HERO, operated by Hungarian Red Cross.

Analysing the social layers of resilience, found that resilience is an attribute of individuals, households, communities, organizations, countries that is intertwined on different levels of

society and have mutual impact on them. I highlighted the concept of community as one of the most effective elements in a resilience program. Exploring new challenges, I revealed the need to involve volunteers in resilience programs and in connection of a specified threat, climate change, and outlined the use of knowledge in reducing vulnerability and risks.

I revealed that risk analysis based on the assessment of losses caused by disasters or other incidents and estimates of potential losses, are essential for effective decision-making. I made a proposition for governments, legislators, and other key partners to encourage the planning and funding of resilience programs across the different sectors. I proved that international and national disaster laws and regulators can enhance the role of community resilience and social responsibility, and encourage governments to implement effective, up-to-date legislation in respect of disaster response.

Categorized methods and tools of psychosocial aid and found that the diversity of methods ensures that the reaction on psychosocial needs of the disaster-stricken population meets all individual and community requirements in all situations (Sáfár-Hornyacsek, 2011). I revealed that psychosocial needs vary for different individuals and communities, some groups, particularly children, have special needs, and found that special psychosocial programs are needed in order to restore their mental health. I found that during the interventions assuring physical security is the primary task of rescue professionals, so I proposed the involvement of psychosocial helpers to the rescue phase. By examining the psychological effects on the aid workers, I demonstrated that regular measurement of their psychological competence is necessary for their efficiency and to preserve mental health, besides psychosocial preparation programs and psychological support after extremely stressful events. I demonstrated that humanitarian organizations can take part in this work with efficiency, and the practice of Red Cross based on their experience, can be adaptable for other organizations as well.

I observed that the improvement of community resilience is only possible if we have a thorough understanding on the attributes, environment, weaknesses and resources of a community, which needs to be measured. Developed a methodology for measuring resilience considering vulnerability and capacities of the population. It gives an exact and actual picture about the resources of the population and about the factors which makes them vulnerable against possible hazards. Categorized processes, methods and tools that can improve the efficiency and effectiveness of the survey and discovered that their selection is the key to the authenticity of future measurements. By analysing the immediate and long-term needs emerging in case of

disasters or other crises, I found the importance of complex assessment methods (Sáfár-Muhoray, 2012) in order to ensure that post-disaster intervention and long-term recovery truly serve the interests of the communities concerned. Highlighted the difficulties in vulnerability and capacity assessment, planning and implementation, I made a proposal for project-based application of humanitarian program development, with continuous monitoring and evaluation.

CONCLUSIONS AND RECOMMENDATIONS

Based on the scientific study of the history and the programs of the Red Cross, I verified first the existing capabilities and methods that enable it for the humanitarian work with respect to new challenges, and besides I specified the possibilities and directions of renewal to ensure effective and successful performance for its member national societies. In order to improve the efficiency of disaster risk reduction, preparedness and response, I defined the practical structure and tasks of disaster response units, assessment and coordination teams of the IFRC, and the health units operated by its national societies, and I made a proposal for the technical modernization of the emergency health care units. Based on this I justified first the need for the supportive role of humanitarian assistance abilities in the work of national governmental defense bodies. I categorized the components of individual and social resilience to disasters and other crises, and defined the factors and requirements needed for the development of psychosocial health. On this basis identified and modelled the humanitarian aid activities and programs contributing to the preservation and improvement of psychosocial health, and proved the proportionality in the interaction between resilience and social welfare. By analysing the resilience programs of the Red Cross, I defined the abilities that contribute to the improvement of community resilience and developed a new methodology - including data collection and evaluation - for planning and execution of the assessment of a population's capacity.

I recommend to use the analysis and research results revealed for the development of new concepts and sector strategies aimed to support and improve the resilience of the population, as well as the integration of tools, methods and processes effective on international level to local practice, and their adaptation to local patterns and capabilities. The scientific results are appropriate to strengthen the international role and importance of international scientific relations, local research results and innovation knowledge transfer, and to include in researches aimed at the long-term impact of resilience measuring methods and tools on the population's resilience. Working materials and methodologies are proper as an expansion of local

publications regarding the subject, for all researches and practical project management uses that aim the improvement of knowledge and abilities related to resilience and humanitarian aid.

I also recommend the practical use of the results and methodologies for the development of programs to assess vulnerability and capacity of the population, to support the work of professionals and decision-makers of governmental organizations and NGOs in the field of disaster response, as well to raise awareness for the supportive role of the Red Cross for the prevailing governments. I propose the case studies and the methodology structure for the use in the curriculum of higher education students specialized in related fields, and in the studies and training programs for defense specialists.

REFERENCES

Baudoin M-A, Henly-Shepard S, Fernando N, Sitati A, Zommers Z: From top-down to 'community-centric' approaches to early warning systems: exploring pathways to improve disaster risk reduction through community participation. International Journal of Risk Science, 2016; Vol. 7, Issue 2, 2016, pp. 163–174.

Béné C: Towards a quantifiable measure of resilience. Working Paper No. 434, Institute of Development Studies Work, Brighton, UK, 2013 ISBN: 978 1 78118 138 6

Bennett C.: Time to let go: remaking humanitarian action in the modern era. ODI, London, UK, 2016

Bosetti L, Ivanovic A, Munshey M: A review of fragility, risk and resilience frameworks. United Nations University Centre for Policy Research, London, 2015.

Griffith-Jones S., Tanner T.: Financial Crises and Economic Resilience: Lessons for Disaster Risk Management and Resilience Dividends. In: Surminski S., Tanner T. (eds) Realising the 'Triple Dividend of Resilience'. Climate Risk Management, Policy and Governance. Springer, Cham 2016. pp. 151-172. ISBN978-3-319-40694-7

Hornyacsek Júlia: A mentési időszak feladatai és szerepe egy közösség katasztrófákkal szembeni rezílienciájának növelésében, HADMÉRNÖK 12: pp. 25-48. 2017.

Hornyacsek J. (2017). The Relationship Between the Tasks Aimed at the Prevention of Extraordinary Incidents, the Preparation for the Mitigation of their Consequences and the System of Protection. AARMS, 16 évf.1 szám pp. 41-65.

IFRC (International Federation of Red Cross and Red Crescent Societies): The One Billion Coalition for Resilience (1BC): a global initiative convened by the IFRC. IFRC, Geneva, Switzerland, 2015.

IFRC: Guide to the auxiliary role of Red Cross and Red Crescent National Societies. International Federation of Red Cross and Red Crescent Societies, Geneva, 2015.

Kelman I, Gaillard J C, Lewis J, Mercer J: Learning from the history of disaster vulnerability and resilience research and practice for climate change. Natural Hazards Vol. 82. Issue S1, 2016, pp. 129–143

Mackintosh K.: The Principles of Humanitarian Action in International Humanitarian Law; Study 4 in: The Politics of Principle: the principles of humanitarian action in practice; HPG Overseas Development Institute, Portland House, Stag Place, London, UK, HPG, 2010.

Maurer: Humaitarian diplomacy and principled humanitarian action. Speech given by Mr Peter Maurer, President of the ICRC, Maison de la Paix, Geneva, 2 October 2014. International Review of the Red Cross (2016), 97 (897/898), pp. 445–452.

Muhoray Árpád: Katasztrófamegelőzés I., egyetemi jegyzet, Nemzeti Közszolgálati Egyetem, egyetemi jegyzet, Budapest, 2016., ISBN: 978-615-5527-85-2

Sáfár B., Hornyacsek J.: The psychosocial support programme of the International Federation of Red Cross and Red Crescent Societies. Műszaki Katonai Közlöny, 2011. december, Különszám, pp. 35-50. ISSN:1219-4166

Sáfár B., Muhoray Á.: Implementation of standardized field assessment teams in the international disaster response system of the Red Cross. Hadmérnök, VII. Évfolyam, 2. szám. 2012. június, pp. 173-183. ISSN 1788-1919

Twigg J: Disaster risk reduction: mitigation and preparedness in development and emergency programming. Good Practice Review 9. Overseas Development Institute (ODI), London, UK, 2015. ISBN: 0 85003 694 1

UNDP (UN Development Programme): Community-based resilience analysis (CoBRA) conceptual framework and methodology. United Nations Development Programme Drylands Development Centre, New York, USA, 2014.

UNISDR (UN Office for Disaster Risk Reduction): Sendai framework for disaster risk reduction 2015–2030. In: UN world conference on disaster risk reduction, 14–18 March 2015, Sendai, Japan. UN Office for Disaster Risk Reduction, Geneva, Switzerland, 2015.

Importance of disaster crisis intervention to survivors and rescue and relief workers in emergency management

Árpád Sebestyén
PhD Student
University of Pecs, Institute of Psychology
Member of the Disaster Crisis Intervention Team
National Directorate General for Disaster Management
sebestyen.arpad@maltai.hu

Zsuzsanna Kovács
Senior Lecturer
Department of Applied Psychology
Faculty of Healthcare Sciences, Semmelweis University

Abstract, Introduction

This article is focusing on disaster crisis intervention which is an approach of support to release tension and to be able to handle negative and self-destroying feelings of victims, survivors, witnesses, rescue and relief workers and their families in an emergency or critical situation and disaster. First the authors try to define what this psychosocial support is or with more professional methods included disaster crisis intervention considered to be.

Second focus of the article is on the characteristics of stages of possible reactions of humans on traumas and crisis in an emergency situation. and to specify how a psychologist or psychosocial helper can support and help them.

Third focus of the paper is on the structure of activities of disaster crisis intervention made by trained psychologists to specify how to do and what to be involved in the process of helping on psychological level. There are five operational phases: 1.Preparedness and preparation, 2.The alarm and its characteristics, 3. Approaching the location, the field work, 4.Crisis intervention, 5. Closing the operation.

This paper is a summarised experience of 15 years of field work of the authors themselves based on manuals, references and researches of disaster crisis intervention and.

Definition of crisis intervention in disaster or emergency situation

This humanitarian response is still not clearly defined in the literature being considered many times just as psychological first aid or as a simple stress release approach. It is better to say, that even professionals on this field often uses terms which are not precise and there is often a confusion of technical terms describing the psychological activity of disaster or emergency crisis management.

Since 2001 there is a formulation of crisis intervention of Ehrenreich as a „set of techniques aimed at helping the person in crisis to gain control over the crisis situation". In psychology is well known, that humans can suffer from different crisis, e.g. youngsters from adolescent crisis, there is crisis in marriage, crisis caused by loosing job, middle age crisis, etc. Based on this authors have the opinion that definition of disaster crisis intervention of Sebestyén & Lénárd (2012) is more precise and more complex than Ehrenreich's: The aim of disaster crisis intervention is to reduce tension and to support psychological capacity (resilience) of victims, survivors, witnesses, search and rescue workers and their families, using professional methods too in order to prevent mental, emotional and cognitive disfunctions and evolution of the Post Traumatic Stress Disorder

Having this definition as a basic statement, we have to conclude that one of the differences between psychological first aid (PFA) and disaster crisis intervention is that PFA itself does not have the tools to fulfil the criteria from the last mentioned definition.

WHO (2011) in it's description defines PFA as a humane, supportive response to a fellow human being who is suffering and who may need support. PFA covers both social and psychological support.

We have to acknowledge that in the reference WHO clarifies that PFA is not a professional counselling. The authors have to add, that it is not a psychotherapy either (Csürke, Vörös, Osváth, Árkovits, 2014), and it is not a professional stress release method too, like Progressive Relaxation, Autogenic Training, Mindfulness Training etc

PFA involves the following themes according to WHO:

- providing practical care and support, which does not intrude;
- assessing needs and concerns;
- helping people to address basic needs (for example, food and water, information);

- listening to people, but not pressuring them to talk;
- comforting people and helping them to feel calm;
- helping people connect to information, services and social supports;
- protecting people from further harm.

„PFA is an alternative to "psychological debriefing" which has been found to be ineffective."

This statement seems not to be correct anymore. There are references that psychological debriefing may be effective if it is applied in a proper way, with proper timing with a professional group mentor (Osta, King, Serwint, Bostwick, 2019). With that evidence we can say, that another difference to PFA is that disaster crisis intervention includes psychological debriefing, as a powerful method using focused social support.

Brief history of the activity

The knowledge on this field has started to be scientifically summarised by researchers not well before the millennium and we can consider it as a relatively new topic in the humanitarian aid activities theory and practice.

Although the very beginning dates back in the 1940s with Lindemann defining the symptomatology of crisis based partly on the work with the Boston's Coconut Grove Club fire survivors and family members of the victims, most researches were published by military and police professionals in publications which were to use mainly by these organisations. Indirectly there were publications too with topics related to disaster crisis intervention like Post Traumatic Stress Disorder researches (Horowitz, Wilner, Alvarez, 1979) or book of Weaver (1995): Disasters: Mental Health Interventions, but Ehrenreich's Coping with Disasters. A Guidebook to Psychosocial Intervention. Manual (2001) was more comprehensive on disaster crisis intervention. In Hungary the history of disaster crisis intervention has had similar path like worldwide, the first book published having a chapter on modern disaster crisis intervention was Hajduska's (2008) Krízislélektan, with Pető (1999), Pető, Szekeres, Csiky (1999) Pető (2000) having publications on the same topic before that date, but these circulated only amongst disaster management workers.

Stages of coping with trauma and grief, mourning during and following disasters

Even before an emergency situation happens there might be an anticipatory loss, grief (Lindemann, 1944). This could be a stage, which the professionals of disaster crisis intervention should handle too. The anxiety, feeling of helplessness characterise this stage. The anticipatory mourning is not easy to cope with, as it is based on anticipation, on pure images, which can be more destroying to the personality than the situation itself.

In a disaster or emergency situation, being a survivor, family member of a victim or a witness the first reaction to a loss as a trauma is usually not the sorrow, sadness, but a shock (Benczúr, 2015). The behaviour could be paralysed for minutes, hours or sometimes even for days, until the person becomes aware of the duties or activities necessary to cope with the situation.

The consequence of the shock could be negation, denial of the loss: „It couldn't happen to me", „The person is alive, I heard his/her voice".

The following phase - they are not rigid in time and specifications - is the start of the rational activities (stage of gaining control over the situation) during which the person is expressing emotions of anger, frustration, sadness, helplessness etc. These emotions are normal in process of coping with the traumas of a disaster.

Stage of getting awareness could be the next phase. The person could continue to express still intensive emotions, but there could be the awareness of the loss as well. It is a complex phase, there might be regression, the person could hallucinate, which are normal in this stage: „As he/she was standing in front of me, „I heard his/her breathing". At the same time there could be a guilt feeling or avoiding the places or things the person lived or had. This ambivalent behaviour is difficult to cope with. At this stage psychosomatic symptoms are often manifested.

In following stage the person tries to reorganise the life (having lost his/her house, a family member, having got a serious wound, etc.) The emotional reactions could be more under control as before, the person could accept what happened and tries to formulate a basic plan for future and starts to adapt to new life situation, getting back to former everyday routine which was characteristically before the disaster.

In case of a successful coping process during the fifth stage the person is getting to be able to face with the loss, to be conscious that that there would not be a totally same lifestyle. The

person gets awareness that it is possible to reorganise his/her life with the same efficacy as before the event, gets awareness of a new perspective in the life. The acceptance of the loss could be integrated into the personality, which could lead to development of the personality, which is referred to in the literature as Post Traumatic Grow.

The structure of activities of a disaster crisis intervention in Hungary - Operational phases for psychologists

Based on the model of Sebestyén (2013) operational activities starts not with the disaster or emergency crisis intervention but well before the event happens, with preparedness and preparation.

Preparedness and preparation

- Motivation and personal emotional involvement towards the activity is the first point to consider as a professional being involved in this activity. Helpers usually do not pay enough attention to themselves (Takahashi, 2014) and are not aware of their motivation to help even they dispose themselves to dangerous situations. To become a good, reliable and professional disaster crisis intervention team member it is important the awareness about the motivation to act on expected nivou in this activity.
- Another important aspect of the preparedness is enlisting personal capabilities and possibilities.
- Training and learning is paying an essential role in preparedness too.
- Get equipment ready to be able to approach the affected area as quick as possible (e.g. backpack inclusive of toys for children, communication equipment, notice book or notebook etc.) is of a great importance too.

The disaster crisis intervention alarm and its characteristics

- To alarm is the responsibility of the authorities of disaster management of an area or the country. It is necessary to gather basic information about the event while getting the alarm for the activity (what happened, estimated number of victims, survivors, level of damage of built environment, etc.) to be able to prepare for possible emotional involvement and physical stressors awaiting the psychologists at the location.
- To have a plan to get to the location. In a disaster it is often more difficult to approach the field than it might be logical. If there is an international cooperation, to fly to another

continent and to get there on reasonable time for help to have it's effect, it often needs to put more energy into logistics than someone might think.

- In Hungary, psychologists have usually 1-6 hours to set off from time of being alarmed.

Approaching the location, getting to the field work

- On the way to the field the protocol in Hungary is, that psychologists collect further possible information about the event, about the involved population, its structure by age, gender disability, handicap and – if there are data - on prevalence of chronical illness. Further information which can be of importance is the number and structure of shelters, and – if needed - places for evacuation.
- Approaching the location of an emergency that is most probably the last opportunity for longer period to pay attention to physical needs of psychologists themselves.
- The avoidance of the emotional involvement with the possible suffer and loss of people being victims, survivors of an emergency situation while on the way to the location is a sign of a well prepared and stable professional.
- In Hungary, in process of disaster crisis intervention psychologists does not have a rigid leadership. Coordination of an event is decided amongst themselves upon the information gathered about the situation being aware of abilities and capabilities of each other.

The emergency and disaster crisis intervention

On top of the PFA themes referred to on behalf of WHO enlisted above psychological disaster crisis intervention may include the following activities:

- Using methods or technics focused on social support (psychological debriefing)
- Supporting ventilation of emotions with psychological approach or focus
- Involving relaxation methods (e.g. progressive relaxation) if needed
- Psychological counselling if needed, enhancing extrovertly, constructive communication
- Encouraging activities (organising, mentoring) with psychological focus
- Informing victims, survivors, their family members on strategies of coping (focus on future)

Ending, finalising the operation

Disaster crisis intervention is considered to last no longer than 72 hours. Towards the end of an operation giving reliable information to victims on possible further help and contact details of other professionals is essential. It is very important that the above time limit is not rigid, so the end of an operation is when there is certainty that psychological situation will be under control even after the emergency crisis intervention professionals leave the field.

Other focuses with ending an operation and aftercare of professionals:

- After the operation more focus on resting of the professionals ensuring physical, mental needs
- Debriefing of psychosocial professionals
- Psychologists share with each other experience gained during the operation and other relevant info to their work
- Report on conclusions and proposals to authorities if there is any
- Supervision of the professionals

Summary

Disaster crisis intervention contains more methods and technics to support victims, survivors of an emergency situation than psychological first aid. Disaster crisis intervention is more than applying stress release methods too. It is a complex emotional, mental behavioural and group (social) support to people suffering from the effects of a disaster or emergency situation. This activity is still not fully defined with scientific approach and to help professionals doing their job, it needs to be further evaluated, the limitations enlisted and the operations improved with focus of more effective help to victims, survivors, witnesses rescue and relief workers and their families in disasters.

References

Benczúr, L. (2015) A gyász lélektana. In. Kiss, E. Cs., Sz. Makó, H. (ed.) (2015) *Gyász, krízis, trauma és a megküzdés lélektana.* (11-38). Pécs: Pro Pannónia Kiadói Alapítvány

Csürke, J., Vörös, V., Osváth, P., Árkovits, A. (szerk.) (2014). *Mindennapi kríziseink. A lélektani krízis és a krízisintervenció kézikönyve.* Budapest: Oriold és Társai Kiadó

Ehrenreich, J. H. (ed.) (2001). *Coping with disasters.A Guidbook to Psychosocial Intervention. Manual.* New York: Center for Psychology and Society, State University of New York.

Hajduska M. (2008). *Krízislélektan*. Budapest: ELTE Eötvös Kiadó.

Horowitz, M., Wilner, N., Alvarez, W. (1979). Impact of Event Scale: A Measure of Subjective Stress, *Psychosomatic Medicine 41*(3), 209-218.

Lindemann, E. (1944). Symptomatology and management of acute grief. *American Journalof Psychiatry* 101, 141-148

Osta, A. D., King, M. A., Serwint, J. R., Bostwick, S. B. (2019). Implementing Emotional Debriefing in Pediatric Clinical Education. *Academic Pediatrics, 19*(3), 278-282.

Pető, Cs., (1999). A krízis pszichológiai vonatkozásai – krízisintervenció. *Polgári Védelmi Szemle, 4*(4) 16-18.

Pető Cs., Szekeres A., Csiky-Mészáros M., Schnitchen L. (1999). Tapasztalatok pszichológus szemmel. *Polgári Védelmi Szemle, 4*(3) 8-10.

Pető Cs., Szekeres A., (2000). Pszichológiai krízistámogatás a 2000. tavaszi árvízi katasztrófa helyzetben, *Katasztrófavédelmi Szemle, 3*.

Sebestyén, Á., Lenárt, Á. (2012). *A nemzetköziség vonása a magyarországi KIT (KINCS) történetében*. MPT Országos Tudományos Nagygyűlése, Poszter

Sebestyén, Á. (2013). Gyakorlati tapasztalatok a krízis-intervencióban; A krízisintervenció alkalmazásának fázisai, BM OKF KINCS konferencia, Pécel, 2013, 12. 13. ppt.

Sebestyén, Á. (2015). Psychology. In. Adanyi, L. (ed.) *Voluntary aid workers active in disaster crisis intervention*. *Training material*. (10-27). Budapest: MMSZ Egyesület

Takahashi, S. (2014). Mental Health Support for Disaster Management Personnel, Abstract. *Seishin Shinkeigaku Zasshi – Psychiatria et Neurologia Japanica, 116*(3) 224-230

Weaver, J. D. (1995). *Disasters: Mental Health Interventions*. Sarasota: Professional Resource Press.

World Health Organisation (2011). *Psychological first aid*: Guide for field workers, 3.

The ANPAS model of psychological support in emergency

Simona Ius
Psychologist volunteer
Associazione Nazionale Pubbliche Assistenze
internazionale@anpas.org

Egidio Pelagatti

Valentina Bruchi

Giulio Alessandro Mazzocco

Maria Luisa Rossi

Abstract

This article presents the peculiar emergency psychology model in civil protection adopted by ANPAs during national emergencies.

The aim of this model is to work on mental health and psychosocial support in disasters, in order to assist populations (such as displaced persons, disaster survivors, and so on) and volunteers deployed on disaster-affected-places both affected to extreme stressors.

ANPAs disaster risks capacities are large in terms of emergency temporary shelter capabilities (able to host up to 250 displaced persons), volunteers involved in the response operations (from 50 to 100 volunteers in the same time), and volunteer emergency psychologists (up to 2 psychologists operative 24 hours a day in seven-day shifts).

The paper explains how the methodology approach endorsed into ANPAs organization suits to the peculiar needs of the emergency temporary shelter. In particular, it describes the several considerations taken into account during the demand analysis with the aim to protect the mental health and psychosocial well-being of camp residents, while providing for their basic needs and security. At once, the article shows the ways of intervention that are implemented and how contacts with local mental health services are kept; furthermore it reveals how the handover takes place in a way that both the continuity of the intervention and the protection of user privacy are guaranteed.

Eventually, the document offers a practical panoramic on the activities carried out by the emergency psychology service of ANPAs in the several phases of emergencies, addressed to volunteers and disaster affected communities.

Introduction

"The Pubbliche Assistenze Italian Associations, began to form in 1860. Inspired by solidaristic ideals and acting on the belief that people should help one another as brothers and sisters, they were free, secular and democratic associations of volunteers open to anyone's participation. […] Today, ANPAs is a national-level independent unitary movement that grounds its associative and institutional activities on democratic constitutional principles, community participation and volunteer work. […] All ANPAs member associations provide unconditional assistance to anyone in need, and are generally open to anyone wishing to participate in their activities. ANPAs currently represents 869 associations. ANPAs 90.000 volunteers and 400.000 members make up the largest volunteer association in Italy." (www.anpas.org) Anpas, as a voluntary organization, is an operational structure of the National Civil Protection System.

The National Civil Protection Mobile Column is a self-sufficient «ready to go» modular structure for interventions in areas affected by various disasters. The ANPAs National Civil Protection Mobile Column can be deployed for building an Emergency Temporary Shelter (ETS) to host people affected by disasters.

Design a model

The Experience

The Emergency care Psychology ANPAs Model (MAPE) is based on the experiences in the recent ETS: earthquakes in l'Aquila 2009, Emilia 2012 and in Central Italy 2016.

These three experiences have been different both for the type of emergency and for the users of the relief camps and have produced a progressively increasing offer of psychological assistance provided by Anpas, always in greater synergy with the specialized functions operating in the ETS.

During the intervention in Abruzzo in 2009 the emergency care psychology department (SPE for Settore di Psicologia dell'Emergenza) in ANPAs had just been born and was organizing the needed group of experts. At the time, and still in Emilia 2012, it was joined with the social department and was named the "psychosocial department". In 2012 in Emilia this department began to establish the presence of a psychologist for each of the two ANPAs ETS. During that emergency, the main theme that psychologists were facing with was the multi-ethnicity of the citizens in the ETS and the consequent intercultural challenge with a population that was

already experiencing a strong stress from the earthquake. In general, interventions are often pure mediation.

Between 2012 and 2016 many things changed with the separation of the SPE from the social department and the design of a model of intervention that includes a specific training for voluntary psychologists.

The last emergency that involved the SPE at national level was in 2016 in Central Italy earthquake where the issue of mourning of the entire affected community was predominant and characterized the intervention of psychologists on population and volunteers.

it was found that some peculiar characteristics of the MAPE were valuable and effective:

- the presence of two specialists at any time in the ETS,
- attention to continuity in the handover,
- close collaboration with the social department.

It arises as a need:

- specific training on the shared model,
- homogeneity, shareability, accessibility and privacy of the collected data.

Project

The current structure of the MAPE is the result of the formulation of 2014 following the division of the SPE from the social department and the reorganization following the emergency of 2016.

Purposes

The purpose of the emergency care psychology service, as structured by ANPAs, is to guarantee the constitutional right of health of each person (Italian Constitution, Article 32: “The Republic protects health as a fundamental right of individual and interest of the community, and guarantees free treatment to the indigent”), in the sense of the WHO of "physical, mental and social well-being".

Targets

Within the ETS context:

- for the population:

    - to do the demand analysis (Carli & Paniccia, 2004),
    - to detect needs,
    - to provide short and direct interventions,
    - to assess the needs and, where appropriate, to send persons/patients directly to specialists,
    - to create or restore a contact with the local mental health and social assistance services;
- for volunteers:
    - to monitor,
    - to support,
    - to prevent any effects of psychological trauma.

Recipients

Recipients are first, second and third level victims in the ETS, therefore people and their relatives involved in the traumatic event; particular attention with that specific interventions and tools are addressed to the ANPAs volunteers before, during and after the participation in the emergency activities.

Method

The intervention of emergency care psychologists in an ANPAs ETS is structured and codified in the National Civil Protection Mobile Column procedures. At the relief camp there are two psychologists for the duration of the shift from one Saturday to the next (8 days, 7 nights); they have at their disposal a container where they can receive people who require an appointment and where they can keep the material that has particular needs related to privacy. Every Saturday, at the shift change the psychologist responsible (always the same) for the continuity of the interventions is present and takes care of handing over from one pair of experts to the next. A particular coding method allows to consult the notes related to the interventions of the previous shifts only during the shift in which one is in service.

The setting and contents of the psychological intervention in emergency are very particular and have peculiar characteristics: the common spaces (canteen and bathrooms, for example) are shared by psychologists and their users and this is an almost unique situation for this profession.

The typical nature of the context and the difficulty in formulating the request for help means that informal spaces are often preferred to contact with the expert rather than the dedicated

container; although this situation does not guarantee confidentiality and clear boundaries of space and time, the indication for all ANPAs psychologists is to comply with this condition because it can often be difficult for users (whether constituted by the population or by the volunteers) to formulate the request to book an interview. In a normal therapeutic setting (Semi, 1996), the clear willingness of the person concerned to undertake a treatment would be an indispensable condition for the start of the treatment process, but -since in this context, sometimes psychologists act on temporary reactions, limited, reactive and difficult to codify even by the same subjects who manifest them - accepting such a strongly informal setting makes it possible to achieve the aim of identifying needs and carrying out brief interventions.

The intervention is always focused on the here and now, aimed at understanding the exceptionality of the context in which it occurs and the normalization of reactions that outside the traumatic context would be unexplained or severely evaluated in a psychopathological perspective. Somatizations, perception of emotional disconnection or, vice versa, of hyper-reaction, perception of derealization, sleep disturbances, eating disorders, behaviour disorders are as typical as reactions to emotional trauma as possible psychiatric symptoms (Dazzi, Lingiardi & Gazzillo, 2009): the context and transience of their expression, in this case, have an important diagnostic and prognostic significance that can be evaluated by an expert psychologist who knows how to read them clinically, insert them, possibly, in a clinical history or in a hypothetical baseline of behaviour of the individual in order to be able to codify them and to establish a hypothesis of intervention that can be solved in the current context of the ETS or requires a continuous therapeutic intervention with a stable figure in the local services. In this regard, the emergency psychologists present in the camp are always in touch with the local healthcare services. This possibility of exchanging information allows to trace in the ETS psychiatric patients, drug addicts, families and individuals followed by the social services, by the institutions in charge of them and, vice versa, these citizens can be helped to trace the specialists who already follow them; consider, for example, the administration of psychiatric medicines or methadone. Taking into account the fact that, in emergencies, situations of discomfort, mental suffering or relapse in the use of psychotropic substances may become more acute, it is clear that care must be kept as constant and accessible as possible.

The presence of the psychologist at the ANPAs camp at the meantime with the timing of all the other volunteers (contingent from Saturday to Saturday) represents a duration of the shift and a much greater availability during the day than all the other types of emergency psychology

service, yet for a relationship of psycho-emotional help, a week is a very short time although the possibility of daily attendance makes it quite easily very intense.

In order to constitute a functional and continuous service, this turnover of professionals must shift the focus of the helping relationship: if normally the helping relationship must constitute a "good combination" between the individual-patient and the individual-specialist in order to function; in this case the good combination and the "therapeutic alliance" must be established between the individual-user and the function-of-psychologist in the ETS psychologist successively covered by different individuals. This attitude may seem distancing and unnatural, but soon it will be the user himself who will notice how the distance allows him to continue to use the psychological service throughout his stay in the camp. To the specialist this position may be even more forced and complex and in need of specific training because the psychologist usually works, in his ordinary job -whatever his theoretical approach is- on long-term, enduring relationships with a slow solidification.

This professional identification with the function is a complex job emotive condition.

The possibility of maintaining this psycho-emotional position is guaranteed by specific training, which provides homogeneous, coherent and coordinated interventions.

In order for citizens to be able to perceive a continuity of intervention, an accurate handover is also necessary.

The moment of the handover when the contingent changes (typically Saturday morning) is important and delicate: the population has to experience a separation every seven days, a discontinuity, a change in a moment of their life in which they have limited control over the events and often have suffered traumas, mourning, material losses, which are all different forms of separations as well. From this point of view, ANPAs pays great attention to ensure that this happens in a delicate way, without changes in the routine and creating the least possible discontinuity, which is why the handover for some sectors is particularly delicate and cared for by someone who keeps the thread through the different contingents; this also happens for the psychology of the emergency; we realized during the earthquake in Emilia in 2012 and even more so during the Central Italian Earthquake in 2016 that the presence of a person responsible for the activity of emergency psychology who takes care of the contact with the local social and health services and that ensures continuity in the intervention is necessary. Today, MAPE provides for a responsible psychologist for the service, who is present at all handover operations

and who, even when he is not present, has access to daily reports and can be consulted for all needs by experts on duty. Where possible, the psychologists of the outgoing shift present those of the incoming shift to the people with whom they have started an intervention of any kind.

This transfer of deliveries maintains its continuity thanks to a diary of interventions on individuals, families, groups or volunteers that is kept in digital format. This structured diary remains accessible throughout the emergency to the responsible psychologist, psychologists in turn can consult it only for the period of the shift. At the end of the intervention it is filed in accordance with Italian privacy laws.

The purpose of this handover is to facilitate the inclusion of the new couple of psychologists in the daily life of the camp to simplify their work, but especially to facilitate the continuation of the path of recovery of individuals and the community. Sometimes it can be useful to explain with a user that, with his consent, the contents exchanged will be transmitted to the psychologists who will follow, to avoid that he or she must, every time he/she turns to a different psychologist, retrace a traumatic story (it is different the re-narrating that is part of a process of elaboration).

Particularly relevant is the transmission of the history of the small community of the camp. Often the psychologists' interventions are on small groups or support in the management of the ETS for the community itself.

During the shift the psychologists move in the camp, they are known, visible and present so as to make it easy to access their intervention and so to be familiar faces to the population and volunteers so that an intervention, if necessary, is easier. The psychologists take part in the life of the ETS and join daily in the morning briefing and evening debriefing of the coordinators of the different sectors. They are in particular in contact with the volunteers who work in the social structures with whom they hold a brief daily meeting dedicated and reserved for this purpose.

The emergency psychologists are mainly at the disposal of the volunteers regarding the current context of the ETS, their moods or difficulties in this matter, in dealing with the relationship between them and the population. Individual interviews are always possible and, in the case of particular situations (critical interventions, strong tensions, unexpected situations), defusing interventions and psychological debriefing on the group are immediately activated.

For a better protection of the volunteers, the project foresees, within 72 hours, a psychological debriefing for the volunteers who have participated in the same team, divided by region or zone of origin. These debriefings are conducted by a psychologist belonging to ANPAs or who, in any case, lends his work on a voluntary basis.

To respond to the principle of maximum protection of volunteers, psychologists are also protected in their role of contact with mental trauma through the constant monitoring of their activities. The presence in pairs is to alleviate the burden not only of the amount of quantitative work, but also qualitative, especially allowing discussion and mutual support. They never lead the debriefing to the return of the contingent of which they have been part, but they participate like all the other volunteers.

Moreover, during the basic course for national column operators, all volunteers are offered the use of a tool for self-assessment of their compassion fatigue, compassion satisfaction, and risk of burn out (www.proqol.org), which is free and accessible to all. It is recommended to use it if it is felt that something in the interventions that do is particularly fatiguing, upsetting or if it has participated in interventions considered potentially traumatic.

Evaluation of the intervention

the daily recording of interventions is structured in such a way as to allow a descriptive statistic of the number of interventions, of the target audience (population, volunteers, individuals, families, groups), of what type of intervention has been carried out (informal, structured, networking), of what moments have proved to be more critical.

A follow up method is being studied at the moment in order to respect privacy and to bypass the conditions of difficult traceability of people who are temporarily homeless.

References

Carli, R., Paniccia, R. M. (2004). *Analisi della domanda.* Bologna, Italy: il Mulino.

Dazzi, N., Lingiardi, V., Gazzillo F. (2009). *La diagnosi in psicologia clinica. Personalità e psicopatologia.* Milano, Italy: Raffaello Cortina Editore.

Iacolino, C., (2016). *Dall'emergenza alla normalità. Strategie e modelli di intervento nella psicologia dell'emergenza.* Milano, Italy: Franco Angeli

Sbattella, F., Tettamanzi, M. (2013). *Fondamenti di psicologia dell'emergenza.* Milano, Italy: Franco Angeli

Sbattella, F., (2016). *Manuale di psicologia dell'emergenza.* Milano, Italy: Franco Angeli

Semi, A. A., (1996). *Tecnica del colloquio.* Milano, Italy: Raffaello Cortina Editore.

Costituzione della Repubblica Italiana. Retrieved from: https://www.senato.it/documenti/repository/istituzione/costituzione.pdf

D. LGS. n. 1del 2 gennaio 2018 “codice della protezione civile”

An introduction to A.N.P.As. Retrieved from https://www.anpas.org/english-version.html

Professional Quality of Life: Elements, Theory, and Measurement. Retrieved from https://www.proqol.org

To test the effective implementation of Comprehensive School Safety Framework provided by GADRRRES in Government run Schools in Delhi, a case study intervention by Save the Children, India

Rohit Ghanbahadur
M.A. student in Disaster Management
Tata Institute of Social Sciences
rohitghanbahadur@gmail.com

Abstract

'Children are vulnerable at all stages of their lives and sometimes even after they become an adult' (SOS Children's Villages International, 2015), this is true for not only the vulnerable sections of the society but also the ones that are deemed not. If we take into consideration a non-disaster situation such as children working in a factory environment, they have no option but to leave their education and work to sustain and support their families. Most of them are married off at a very young age and are pushed into labour where they are exploited by the contractor and the production managers. They cannot pursue their education or dreams even if they wish to. 'Almost all vulnerable children are suffering' (UNICEF India, 2003), which is somewhat of a commonplace statement but why is this so? and how can this be tackled? is something that needs to be focused upon. The obvious thing is the fact that neither the child nor their parents/guardians know about the existing Child Rights especially Rights of the Girl Child. They are also tightly gripped by social evils of illiteracy, malnutrition and abuse. Awareness through 'Safe' Education is therefore the key to tackling these hurdles. The government run schools cater to the poor, unprivileged, and mostly Below Poverty Line population which accounts for almost 21.9% of India's population which wouldn't seem like much until you see that this percentage translates to almost 267 Million people. Looking at it from a micro lens, and as much as 9.91% of the capital city of Delhi's population lives below the poverty line which amounts to 1.6 Million people (The World Bank, 2015). India also has the largest child population of any country. As per the Census of India, for age group 0-6 years it has a child population of 160 Million and for age group of 0-14 of 370 Million children. It means a third of India's population are children who are the future of the country and they have to be provided their basic Right to 'Safe' Education.

One of the best interventions to tackle this situation is the implementation of 'Comprehensive School Safety Framework' (CSS) given by Global Alliance for Disaster Risk Reduction and Resilience in Education Sector (GADRRRES) in Government run Schools, especially in the

capital city of Delhi, India. The framework has 4 goals and 3 pillars. It is a vital step forward because private schools already charge a hefty fee to the parents and have better structural measures against certain hazards and risks. India's National Disaster Management Authority also has its Guidelines on School Safety Measures, but it creates more questions than it answers for example, their checklist has 117 markers, most of which are impossible to address in the Indian scenario. Hence, it is essential that we draw our attention to the framework given by GADRRRES which is a worldwide initiative for school safety.

Save the Children India has been actively addressing the issues of school safety with the implementation of this framework through advocacy in different parts of the country. The DSPO (Delhi State Project Office) works with children aged from 5 to 12 years old. The first phase of the project is over, which ran from 2016 to 2019, and it is thus important to see if it has achieved the objectives it was set out to accomplish. It is working with 4 slums communities and 60 schools of which 10 schools are in South Delhi.

To understand how effective this intervention is in real life there are two parts to this study, Part I Studied the Framework itself and understood how it would apply in the Indian Scenario by converting theory into deliverables. Part II of the study involved carrying out field missions to Schools and Communities and conducting interviews of Children, Parents and Focus Group Discussions of Teachers and Faculty members on their take about how the school safety aspect has improved after the implementation of the program and to answer the fundamental question 'Does it really deliver what it is intended to or does it not?'

Keywords: comprehensive school safety, child centric disaster risk reduction, children and disasters, climate change adaptation.

Introduction

Children are the most invisible during post disaster recovery and rehabilitation processes. They go through trauma such as physical, psychological and social and if the disaster renders them disabled, then matters exacerbate furthermore. If they are separated from their families or familiar environments, they are unable to cope, and they become withdrawn and non-communicative and require urgent psycho-social support. Disasters increases vulnerability in children even further leading to exploitation, abuse and neglect. It is therefore imperative to consider children as a vulnerable group which needs more care and attention from the family and the community at large. Schools are considered as an important institution in terms of

providing care and support to children. There has been a lot of emphasis on recognizing Schools as crucial centers for childcare. Unfortunately, even after so much impetus on schools in global and national policies for child protection, schools continue to fall outside the realm of critical infrastructure and are not properly equipped to deal with disasters. Schools have been identified as the most vulnerable institutions for example, the Kumbakonam (India) fire tragedy where many children died. To address these issues, risks and vulnerabilities have to be mapped. Children have to be empowered by working with them for the community in which they live. An effective participative response based DRR action plan focusing on Building Back Better has to be put into motion, where hazards are identified and mapped thus building resilience through empowerment. This can only be achieved when inclusion of DRR is done into Development and Humanitarian Response.

Save the Children identifies 4 components of Child Centered Disaster Risk Reduction:

Child Centered Participatory Planning which ensures that children are empowered to make their own community Disaster Management (DM) plan where they identify potential risks, vulnerable areas and local capacities, this will facilitate emergence of more child leaders thus empowering children in the community. Early warning dissemination through Ham Radios should be participatory and child centric.

Formation of Task Force Groups (TFG). These are small groups which handle specific tasks and involve 60% of children aged 12-18. The TFG handles: Early Warning, Evacuation, Search & Rescue, First Aid, Shelter Management. Search & Rescue is usually handled by adults and the rest is done by children.

Community and Institution based DM preparedness and mitigation can be done using VCA (Vulnerabilities and Capacities Assessment) by creating a contingency plan which the panchayat can ratify. It includes: (a) Information about the community, (b) history of past disasters, (c) seasonal calendar of disasters, (d) distance of the service provider from the village, (e) details of TFG members, (f) some mitigation and prevention measures.

School Safety initiatives- conducting VCA and formulating School DM plan.

This paper is based on the experience of the author while interning with Save the Children in New Delhi. For this study, the case study of 2 schools and 2 communities from South Delhi were taken under the School Safety Initiative of Save the Children. SCI is working with 4 slums

communities and 60 schools in New Delhi, out of which 10 schools are located in South Delhi. These 40 schools run in two shifts; morning and afternoon. Under the project of School Safety Initiative, SCI has 'established School DM Committees' in each school, as well as 'School Level Task Forces' which are their two main interventions. It is a participatory approach where children, by means of a fun activity called 'Hazard Hunt' map and identify 'Risks' and 'Resources' in their schools. Based on the findings of this exercise the students develop the School Disaster Management Plan which is followed by consultation between the teachers and the students to develop an evacuation plan They create Tasks Forces and also train them on Search and Rescue, First Aid, Early Warning, and Psychosocial Support supported by SCI in different capacities. Mock drills are conducted as Delhi is in Earthquake Zone IV, i.e Duck, Cover and Hold. Earthquake, seasonal diseases in rainy season, fire, urban floods and day to day risks such as open wires, and road safety are mostly categorized as risks by children along with WASH related risks. Disaster Management Resource Center (DMRC) where regular sessions are conducted for awareness generation is a special room set up in every school. Task Force Kits are provided, and members are trained and demonstrated as to how to use these kits in times of crises.

The main body of the paper has been divided into 2 parts and shall be elaborated upon matching theory to practices.

*Part I (*Comprehensive School Safety Framework*)*

The Comprehensive School Safety Framework has four main goals: (1) Protect students and educators from death, injury, and harm. (2) Plan for continuity of education, (3) Safeguard investments, (4) Strengthen risk reduction and resilience through education and runs on three prominent pillars; (a) Ensuring Safe Learning Facilities, (b) School Disaster Management, and (c) Risk Reduction and Resilience Education. A diagram to elucidate what the framework provides is provided in Appendix 3. The framework will be employed in this paper to assess the school and communities on child safety and DRR interventions.

Methodology

The Participants from the schools were 12 School staff members including, the Principle, Primary Teachers and Play school teachers. Another set of participants were 14 School Children

from Nursery and 1st grade to 4th grade. On the other hand, participants and groups from the community that were interviewed were the Mothers Group, Task Force Members, Children's Group, Community Mobilizer and Social Worker and Child Champions along with community leaders.

The location of the study was South Delhi, India. The Schools were SDMC Pratibha School, Badarpur, Delhi, operating at two different timings and considered as the same infrastructure but two different schools. The 2 communities on the other hand were BIW Camp, and Rajasthani Camp. These specific communities and schools were selected because the CSS framework follows a Home-School-Home Approach and once the school was selected then only the communities were selected as 90% of the children in the schools belonged to these communities.

Data was collected through interviews using a non-structured questionnaire as a guide for the school staff, and a checklist was carried during the transect walks to check the structural measures that the school and communities adhered to or not adhered to. Focus Group Discussions were conducted with children from the schools and also from different groups from the communities. As per CSS given by the GADRRRES the observations were recorded during two transect walks and made in a Tabular form to see if the guidelines have been adhered to, not adhered to, or if it's ambiguous, and is attached in the Appendix 1.

As this was an exploratory study it looks at literature and goes on the field and sees its effective implementation. It observes if the guidelines have been followed and the checklist been adhered to, also it underlines critical issues arising from field visits that the theories don't account for most of the times.

Part II

Field Observations from School visits

The SDMC Pratibha School in Badarpur was visited on two different days. The school is a Government run institution by the Municipal Co-operation of Delhi. It is approximately 900m away from the main road. One can easily reach the school as it is close to the nearest metro station. The street towards the school is wide enough but during the day the road is occupied by animals and street vendors. Considering the crowded roads, children have been asked to

walk in groups so that they can look out for each other and travel safely. The street has a few general stores and small clinics. If there arise a medical emergency, the children can be taken there which is less than 300m away from the school.

The school runs in two shifts; the morning (from 7:30 to 12:30) and the afternoon (from 1:00 to 6:00). Both the shifts have different set of teachers. A visit to the morning shift was arranged and according to the teacher 466 children are enrolled in the morning shift. This shift consists of a co-educational kindergarten and girls in the primary school. The School which was started in 1957 and was expanded in 1995, now has 15 primary school teachers, 2 nursery teachers and 1 Headmaster. The school started in 1957. Back then there were few rooms and in 1995 the school was further expanded with around 30 classrooms. The school is a 1 storied building which is rectangular in shape. It has an assembly ground, 3 toilets and 2 drinking water stations. It is also equipped with 16 CCTV cameras, 43 classrooms, 1 DMRC, 4 fire extinguishers, 1 fire bucket, and 2 first aid kits in the staff room. These were identified and mapped as 'Resources' by the children as part of PVCA done by them. A door came off from one of the classrooms which was also identified as a 'Risk'. The children also identified an improperly constructed pipe opening as a risk because of which many children had tripped and fallen over the years, on few occasions the teachers were also a victim of tripping over and falling due to this pipe. There were interviews scheduled as a part of the agenda where Focus Group Discussions were conducted with the teachers, and the children. For a detailed discussion with the Headmaster and the Staff members, a questionnaire was developed which was carried along to make sure all the aspects of school safety specific to this school are captured. The questionnaire is provided in the Appendix 2 at the end of this report.

Sadhana works for a partner NGO of Save the Children called 'Child Survival' and looks after Children Centric DRR, especially adhering to the guidelines given in the Comprehensive School Safety Framework. As discussed earlier, the CSS works on three fronts, on field experiences will be shared to check the effective implementation of the intervention.

Analysis

Ensuring Safe Learning Facilities- On the first day of the visit it was observed that the school was not very clean, and dust was accumulated in the corridors of the school which was attributed to the 3-day holiday preceding the day of the visit. The solid waste management of the school was functional and was not considered as a source of any problem. There were open MCBs

where children cannot reach as they are not tall enough but if it were closed with the help of a local electrician, the problem was solved within an hour. There were instances where the CSS Framework Guidelines were not completely adhered to in the school.

On the second day of the visit, the school was clean and the waste like dry leaves and food was carefully segregated and put into dustbins. The school has installed 16 CCTV cameras for the safety of children. The DMRC provided information using audio-visual equipments on the different types of risk to facilitate the participatory risk mapping by the students. The children, knew about what 'Risks' are, what 'Resources' are, and what 'Evacuation' is. They could differentiate between different types of fire and whether sand or water is to be used as response to different types of fire. The problem, at least for me was the inclusion of the 'other' children. Questions like 'Do other children know what this group knew?', 'Were they made to participate in the Risk and Resources mapping?', 'Were SCs and STs involved in the group?' These questions were there on the back of my head on day 1, but they were answered on day 2 of my visit with further interaction it was observed that the children had a sense of togetherness, they all knew about Risks and Resources and knew how to work together during all times.

The children who attended the end school came from the nearby communities such as BIW Camp, Badarpur Camp, Subhash Market, and Gautampuri area. The school usually does not restrict the admissions based on the area. Considering the safety management, it is important to account for the fact that most of the children are from a 2 km radius as encouraged by the Municipal Corporation of Delhi to ensure better attendance. Around 90% of the children in the school are from below the poverty line, indicating severe socio-economic vulnerability.

The main aim of these Government schools according to the teacher is to facilitate a 'School' for the poor. As schools are moving towards a more inclusive systems with the introduction of the Right to Education in India, there is a need to ensure that the associated benefits of school education are enjoyed by all. It was observed that, there were children who according to their age should attend the 5^{th} standard but did not know the alphabets therefore a standardized format of education may seem futile in such a space. The challenge for the teachers is to help a student to catch up and align with students who are of his age but may have better access to education institutions in the past and are therefore better suited for the standardized education format. To solve this problem, Government schools have initiatives like the STCs which are Special Training Centers for children who have dropped out and need to get back on track. They identify children who want to enroll but have been devoid of basic education or require special needs

like disabled children. With the help of STC, the school is expected to fulfil the requirements of providing them with age appropriate education to bolster their foundations.

The School Disaster Management- The school has managed to conduct an HRVA, this is also known as PVCA, which involves a participatory approach to conduct the analysis. The approach involves using different tools which are useful for mapping of vulnerability. The 'Risks' and 'Resources' mapping was done by the children but not all risks were mapped, or they didn't perceive it as risk to themselves. For example, there was an open MCB board which children couldn't reach but the same carries an extremely big risk of getting electrocuted and hence the question of inclusion of various perspective is to be accounted for. There is no Education Continuity Planning which could be useful for the School as a contingency plan to support educational continuity based on Interagency Network for Education in Emergencies (INEE) minimum standards. But for contingency planning they had evacuation plans and had conducted mock drills. As Delhi lies in earthquake Zone IV, the children were trained to perform the three things, i.e., Drop, Cover and Duck which is admirable. Although this school doesn't have a 'School Development Plan' per say but they do have a School Management Committee and annually the school receives Rupees 60,000 from MCD for School Development and Maintenance. They do have a Disaster Management Plan on the other hand.

Officially, the school has mock drills conducted 3-4 times a year while they conduct similar drills informally once every month. They teach the children and the teachers how to operate the fire extinguisher, and what to do if an earthquake occurs. The school also conduct trainings on 'Road safety as a hazard', as a part of everyday risks. They had a special training for the 5th class conducted by the road safety officers and to their surprise most of the things that they were trying to make the children aware was already known to the children. The school also has a committee on Sexual Abuse. The committee makes sure that children are educated about sexual abuse by generating awareness about good touch and bad touch. Every day during the morning assembly, the school gives lesson on the safety of the children in schools.

Finally, *Risk Reduction and Resilience*- For the part where they had child centered learning but there was no formal integration into the curriculum for which an advocacy intervention is required. One observation was that the teachers asked the little girls to do the dishes, which could be because they come from the most marginalized sections of the community, so the fact that there was any teacher training or staff development sessions which is not fully acceptable. For sustainable development the school committee needs to identify green practices. The cases

of mental health involving bullying or harassment in any form, awareness in children was present and a focal point person was available if needed. There is no lecture system, so a teacher was available for 6 hours in a day for any student who wants to talk and furthermore, everyday 1 hour was given for free interaction session where the child shared things that he/she didn't want their parents to know about, for example, his/her problems, and suggestions were noted down by the teacher and discussed at the next PTA meeting.

The schools received different grants, for example Annual Maintenance Grant, which is a school level grant and the other is Children Specific Grant, for example, Student Remuneration Grant, Mid-Day meal, Sports and Library, SC/ST grant, Girl child specific grants, taking the children at tours like Delhi Darshan etc.

There were Pre-Matric Scholarship provisions in the school for Minority, SC/ST and OBC. The students, the ones who have 75% above attendance, received stationary of approximately Rupees 1000, apart from which everyone got scholarship. When it comes to girl child, specific scholarship was given, such as 'Ladli Yojana' and 'Kanya Protsahan'.

Although there isn't any specific fund allocation for DRR out of the grants the school, but they utilize other resources to fill cylinders of the fire hydrants. In addition, they also have provisions of rainwater harvesting infrastructure provided by the Municipal Co-operation Delhi. The school also had solar panels installed as part of Climate Change Resilience.

The School Principal was not able to provide any list provided by the Delhi Directorate of Education or any other civil society agency for the minimum standards of school safety are

Field Observations from Community visits

The BIW community was almost 1km away from the main road, in the NTPC area. The population of the community must be around 500-600 households mostly SCs, other minorities and most of the people were living below the Poverty line. There was only one proper exit from the community dwelling creating challenges if a mass mobilization is required in case of a disaster. There were too many open drains and in one abandoned plot the people throw all of their garbage without segregating it. The common disasters were fire and diseases from the open drain. And there was another slum just adjacent to this one called 'Gautampuri', which was known for increased frequency of violent behavior and high crime rate affecting the BIW community as well. The majority of the people in BIW worked as laborer and the proximity to

Gautampuri made it difficult for the laborers to seek employment. There was a problem of gathering and loitering by the unemployed men who drank alcohol and eve teased women, which was slowly diminishing due to the interventions by the community mobilizers.

The children from the Anganwadi had prepared a 'Risk and Vulnerabilities Map' in which they had identified a lot of 'Risks' such as open drains where one child had drowned in the past, open wires of electricity that can cause serious threat to not only the children but also the adults, as well as 'Resources' such as temples, toilets, assembly areas for evacuation. The children and women of the community participated in the focus group discussion and described how the community has benefitted from the interventions thus done by the CSS program.

At the Rajasthani Camp Community, interaction was carried out and interviews were conducted of three important groups. This community was unlike anything. It was well maintained. It had a proper boundary and solid walls. It had no open drains and they segregated the garbage and threw it in a designated place outside the community. It had active members of different groups to make sure the community was in good condition at all times.

(a) Mothers Group-

Around 20 mothers had been given nutrition training and awareness on importance of breast-feeding practices for lactating mothers. There was a strong Mother's Group in this community. Although there is a dearth of space, they lived peacefully. The community was 60% of SC population and 40% of OBC, and General. Not too long ago in the same community there existed a lot of open drains, and as a result of which almost 80% of the community had fallen sick. They approached the community leader and had him request the MCD to cover the drains and hence this was the only community which had Zero Open Drains. Only one hazard that was prevalent in the community was fire. And for that the Task force group was well trained and they in return created awareness of the do's and don'ts in case of fire, and how to identify different types of fires.

(b) Task Force Members-

There were different Task Force Members assigned specific tasks, such as search and rescue, first aid, etc. Now a good initiative was that the group that was interviewed was a group of high school students and when asked, "what if a hazard occurs and the members of the task forces are not available? What happens then?", they which they replied that almost all of the

community youth has been given training in different areas of intervention, even if they are unavailable there are others that can immediately help. And when members become adults, have already made provisions of preparing the next batch of task force members so that the cycle goes on and they are always prepared. Apart from Task Force Groups there were children groups, youth groups, women groups. They all had awareness about what to do when an earthquake occurs.

(c) Child Champions-

Although there were no open drains but there were a lot of open electric wires and electricity poles going from inside the homes. At the community there was one child champion present at the time of the field visit named 'Jyoti'. With her help they had made a 'Risk and Resource Map' which although they could not be presented physically, during the transect walk they showed all the risks and certain resources that had and hadn't marked on the map.

Findings

School:

- The School Safety Committee (SSC) included the Principal, Parents from the PTA, 1 Senior teacher, 1 primary teacher, and 1 non-teaching staff.

- The SSC met every month. The minutes of this meeting were documented and recorded. They conducted monthly safety walk with parents.

- During the transect walk two threats were observed; one was the presence of monkeys in the school property and the other was a broken wall, the wall damaged to the point that it would fall on the children while playing may have serious consequences.

- They didn't have the budget to fix the wall, when asked why they haven't done anything about the broken wall.

- They had a complaint box where suggestions and complaints would be posted, and the monthly meeting would try to take action on it.

- The school has presence on online portal of the Directorate of Education where reports on monthly basis can be recorded and uploaded. This portal is operated by a staff member Mr. Manish from the school. CCTV camera footage is available as it is stored for 15-20 days.

Suggestions

(a) The School Safety checklist provided by the Directorate of Education, Delhi, is too big consisting of 117 questions and not all apply to Government run schools. It needs to be tailor made for the children, by the children, parents, and teachers.

(b) The Schools must have a dedicated budget for DRR in School Safety from the grants they receive annually.

Community

- The compound wall was 'Sadi Hui' (badly damaged) according to them.

- There are multiple exits and entries which is a good thing in case of an evacuation.

- A electricity transformer is too close to the community and has caused problems in the past by catching fire, also an open wire is coming out which is live and has electrocuted many people over the years. These are two of the serious risks not only for the community but more importantly the children that play in the area.

- They have 2 evacuation assembly points. And other 3 safe spaces for women, children and the elderly.

- They have been given training for how to use the 'Megaphone' for early warning and mock drills are conducted regularly for effective evacuation.

- If they have any problems in the community, they go to a person called the 'Pradhan' and the Pradhan writes a letter to the concerned authority in this case usually the ward member. For example, there were open hollow poles from which electric live wires were coming out. They were cemented and welded.

- There are problems with space, and there are DDA (Delhi Development Authority) flats are just adjacent to the community, they throw garbage on the community members which causes problems at times. This is due to lack of space. Also, another problem is of the parking. Because there is no space to park and if there is space to part then there is no space to walk. To solve the mutual problems, there is no coordination between neighboring communities. There are clinics in the community so that if there is a medical emergency it can be handled immediately. There

are around 500 households and some of them have toilets, while there are 2 public toilets and the community is very clean.

Conclusion

In conclusion, the intervention has proved effective in achieving the DRR goal of building resilience in not only the school children but also the community they live in. Awareness is the first step, when children, parents and the community become aware of their rights they can be better equipped with having a voice which brings out empowerment in individuals. The field visit have documented many stories of diverse vulnerable groups that before used to lack basic understanding of how to cope, they were helpless, but now they are aware of how to take initiatives in their hands, and using a participatory approach increase the coping capacity and resilience of not only the children but also the community members for not only disaster situations but also on a day-to-day basis.

References

A Measured Approach to Ending Poverty and Boosting Shared Prosperity: Concepts, Data, and the Twin Goals. (2014). doi: 10.1596/978-1-4648-0361-1

Child-centered disaster risk reduction in South Asia: basic concepts. (n.d.). Retrieved from https://www.preventionweb.net/publications/view/48413.

Comprehensive School Safety. (n.d.). Retrieved from https://s3.amazonaws.com/inee-gadrrres/resouces/CSS-Framework-2017.pdf?mtime=20180730152450.

Comprehensive School Safety - Save the Children. (n.d.). Retrieved from https://resourcecentre.savethechildren.net/sites/default/files/documents/7119.pdf.

Convention on the Rights of the Child. (n.d.). Retrieved from https://www.unicef.org/child-rights-convention.

Díaz-Vicario, A. (2017). Practices that promote comprehensive school safety. *New Trends and Issues Proceedings on Humanities and Social Sciences*, *3*(1), 304–312. doi:10.18844/gjhss.v3i1.1779

Minimum Standards for Child Protection in Humanitarian Action (CPMS). (2019, October 16). Retrieved from https://spherestandards.org/resources/minimum-standards-for-child-protection-in-humanitarian-action-cpms/.

Sendai Framework for Disaster Risk Reduction. (n.d.). Retrieved from https://www.unisdr.org/we/coordinate/sendai-framework.

Small Steps Big Leap: Save the Children India annual report 2017-18. (2019, September 3). Retrieved from https://resourcecentre.savethechildren.net/library/small-steps-big-leap-save-children-india-annual-report-2017-18.

SOS Children's Villages International. (2015, November). *CHILD AT RISK.* Retrieved from: The world's most vulnerable children: who they are, where they live, and what puts them at risk: https://www.sos-childrensvillages.org/getmedia/384bc38a-62aa-4c2a-9563-a5ecc61b6a77/SOS-Child-at-risk-report-web.pdf

Szente, J. (2017). Assisting Young Children Caught in Disasters: Lessons and Implications. *Assisting Young Children Caught in Disasters*, 183–187. doi: 10.1007/978-3-319-62887-5_17

The Road to 2021. (2019, September 3). Retrieved from https://resourcecentre.savethechildren.net/library/road-2021.

The World Bank (2015). A measured approach to ending poverty and boosting shared prosperity (PDF). World Bank Group. p. 50. ISBN 978-1-4648-0361-1.

UNICEF India. (2003, May 6). *Early Childhood.* Retrieved from: The most vulnerable children are our greatest priority: https://www.unicef.org/earlychildhood/index_priority.html

Appendix

1. Table of Adherence to Comprehensive School Safety Framework

For School in SDMC Pratibha School in Badarpur	
Guidelines as per CSS	Adhered to (Y)/ Not adhered to (N)/ Ambiguous (?)
(**1) For Safe Learning Facilities**	
Safe Building Selection	N
Building Codes	N
Disaster Resilient & Green Design	Y
Performance Standards	?
Builder Training	N
Construction Supervision	N
Quality Control	N
Remodeling	N
Retrofitting	N
Drinking Water facility	Y
Sufficient number of clean toilets	Y
Hand washing stations	Y
(2) School DM	
Assessments? (PVCA)	Y

Planning (Evacuation)	Y
Physical Protection	N
Environmental Protection	N
Social Protection	N
Response Skills:	
Early warning	Y
Search & Rescue	Y
Resource Guides	Y
Evacuation	Y
First Aid Training	Y
Shelter Management	N
Educational Continuity Planning	N
SOPs they Follow	Y
Contingency Plans	N
(3) Risk Reduction and Resilience Education	
Education for Sustainable development	N
Child centered Leaning	Y
Formal curriculum integrations and infusion	N
National Consensus based key messages	N
Teacher Training and Staff Development	N. They ask children to do the dishes.

Extra-curricular and community based informal education	Y
Conflict sensitive education for diversity acceptance, peace and social cohesion.	Y
(4) Cross Cutting	
Building Maintenance	N
Non-structural mitigation	N
Fire Safety	Y
Green School Practices	Y
Structural Safety Education	N
Construction as educational Opportunity	N
Community engagement in construction	N
Household DM Plan	N
Family Reunification Plan	N
School Drills	Y
Learning without fear	Y
School as Zones of Peace	N

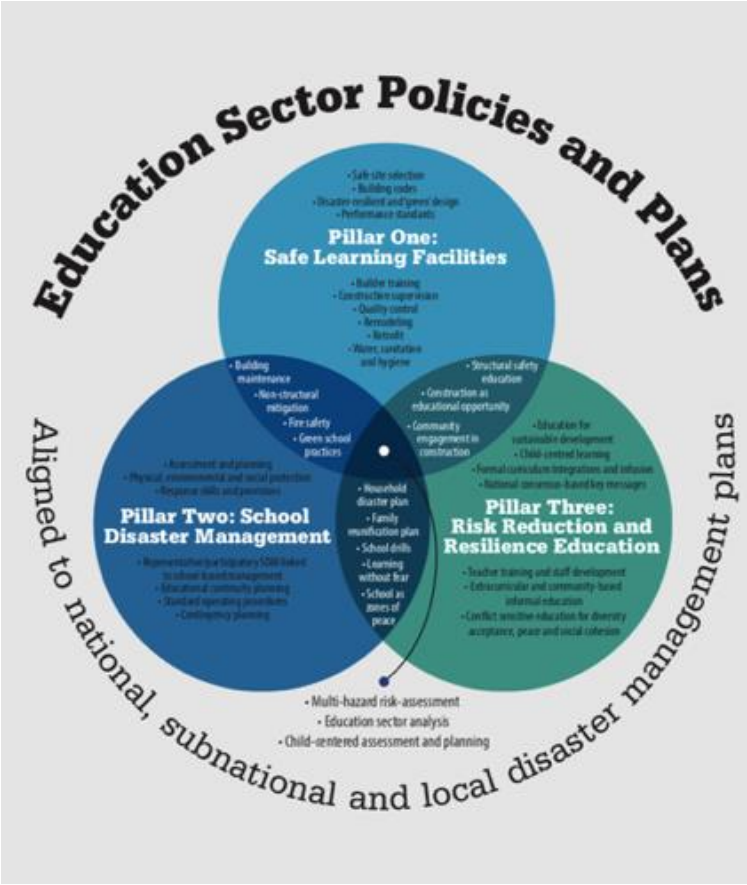
2. Questionnaire for the School Faculty.

Sr. No	Questions	Responses
	For the Teacher	
Q.1	How many children are there in total?	

Q.2	How many teachers are there?	
Q.3	How old is the school?	
Q.4	In your class what is the economic range of the children and their families? Are their big disparities. Does that influence their learning?	
	For the Students	
Q.5	How far do you travel to get to school and what are the risks that you have identified or perceived on the way?	
	For the Principal	
Q.6	Is there a School Development Plan?	
Q.7	Is the community aware of this school development plan?	
Q.8	Is there a discussion in the PTA meeting about the school development plan?	
Q.9	In your School Development Plan have you incorporated any components of Disaster Management?	
Q.10	What happens in disaster situations and non-disaster situations? How are activities different?	
Q.11	Do you do regular mock drills and how frequently?	
Q.12	Does your school plan incorporate everyday risks? Road accidents, neglect, abuse, missing, violence to children? Do you have any record of that?	

Q.13	What kind of grants does the school get?	
Q.14	Do your school students benefit from scholarships that they receive from the social welfare department? If yes, then how much and what kind of?	
Q.15	Girl child specific schemes?	
Q.16	Having done the CSS, do you think DRR is your priority? Do you allocate some resources to it?	
Q.17	Do you have a way of including the neighborhood community and the parents of the children in the Comprehensive School Safety Planning?	

3. Comprehensive School Safety Framework By GADRRRES



4. Acronyms and Abbreviations

Abbreviation and Acronyms	
BPL	Below Poverty line
CSS	Comprehensive School Safety
DM	Disaster Management
DMRC	Disaster Management Resource Center
DRR	Disaster Risk Reduction
FGD	Focus Group Discussion
GADRRRES	Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector
HRVA	Hazard Risk Vulnerability Assessment
INEE	Interagency Network for Education in Emergencies
MCB	Miniature Circuit Breaker
MCD	Municipal Corporation Delhi
NTPC	National Thermal Power Corporation
PTA	Parent Teacher Association
PVCA	Participatory Vulnerability and Capacities Assessment.
SC	Schedule Caste
SCC	School Safety Committee

SDMC	South Delhi Municipal Co-operation
SOP	Standard Operating Procedures
ST	Schedule Tribe
STC	Special Training Centers

Innovative Technologies at the disater management services – Fire protection research area

Tamás Tímár Dr, PhD
Major
Disaster Management Operational Service
Békés County Disaster Management Directorate
tamastimar@gmail.com

INTRODUCTION

An important prerequisite for effective response today is the application of technological advances. Innovative solutions can be of technical, methodological origin and can be used by any of the intervening organizations. The results of the research from the fire protection approach can be utilized not only in the aspect of prevention and intervention, as the elements and movements of the research can be applied to the units of other specialties as well. One of the key elements of an effective response (from a fire protection aspect) is the actual and immediate intervention of on-site intervention units. The research focuses on Disaster Management Operational Service (DMOS) within the Hungarian disaster management system (including the structure of the Service as an organizational element, its operating system, its function and its potential for development).

Detailed results of the related research process were previously published in scientific articles and has been summarized in the doctoral thesis of the author.

Disaster Management Operational Service

The national disaster management system has undergone significant changes in recent years, one of the pillars of the Disaster Management Act, has fundamentally changed (Muhoray, 2012) the structure of disaster management, and the supplementary controllers changed the parameters of the operation of the system. From 2012 onwards, state involvement has increased, the structure of governance and supervision has changed, the organizational structure has been transformed and some apparatus has been integrated (Muhoray, 2012).

One of the elements of the renewed system is the Disaster Management Operational Service (DMOS), which started functioning as an independent organizational element on 1 April 2012 in every county and capital. Professional Territorial Bodies operating under the National Directorate General for Disaster Management, Ministry of the Interior (NDGDM) are County Disaster Management Directorates (19) and the Disaster Management Directorate of Budapest

(Bérczi, 2014). The directorates must have a standby service, which is the Disaster Management Operational Service. Members of the service carry out their activities on the basis of laws, ministerial decrees and directors' actions.

Research objectives

As research objectives the following points are the main issues:

1. Within the renewed disaster management system, following the evaluation of the legal and institutional system of fire protection and the evaluation of the regulators, the current operational parameters, application and task system of the Disaster Management Operational Services, examined and evaluated and the specific features of each DMOS operating in the country will be assessed (Tímár-Tóth, 2016).
2. Analyze and compare the contents of the available databases, draw conclusions towards development, formulate the current innovation directions of the Disaster Management Operational Services, and make suggestions for solutions.
3. Generate development opportunities whose basic purpose is to identify the most important structural, operational, technical and personnel directives, in particular the aspects of organizational structure, control, fire investigation and firefighting activity (Tímár, 2015).
4. My aim is to demonstrate statistical trends that have relevant information on developments and to pursue research that can draw conclusions from comparisons and conclusions.
5. I would like to give a comprehensive picture of the circumstances, parameters and tools of the applications of the Disaster Management Operational Service. I want to work on methods and documents that would make the task of the DMOS more coherent and more efficient.

The process of the research and the methodologies

In order to attain the objectives set, I studied the relevant regulations and literature in which I applied general research methods. I have studied and evaluated the related, scientific, relevant literature and articles published in the field of fire protection. Much of the information cited in my research was processed from NDGDM databases. With the help of the Disaster Data Program (KAP Online) and the OKF Intranet, I could build in the organization's application and intervention statistics and the exact figures related to the achievement of the objectives of the research. For the purpose of the conclusions and scientific results, I evaluated the implementation of the regulations of the regulators and the rules of my research work.

As an empirical research, I travelled to all Disaster Management Operational Services in Hungary so I could gather the characteristics of the services of field organs through my personal experiences (Tímár, 2015a). I have the opportunity to study the disaster management system of the Member States of the European Union on open foreign missions and analyze the experience gained by comparing the operation of the organizations (Fire and Rescue Service, 2014). Based on my questionnaire surveys (managers, executives, firefighters, and professionals), I have evaluated in detail the functioning system, its structure, location and role in the disaster management organization.

Description of the investigation and research steps

- a brief overview of the structure and elements of the system of modern disaster prevention.
- the regulations and the history of the Disaster Management Operational Service and its structure and management (the environment, parameters, roles of the service of the DMOS, and analyze the circumstances, processes and facts of the activities).
- the application and operation of the DMOS.
- the activities of the Disaster Management Operational Service in the aspect of fire management and organization (system of exercises and inspections, recourses, role and tasks of the organizational unit in relation to fire investigation procedures).
- research elements and development opportunities.
- summarize, examine, and draw conclusions from my national level analysis, my professional questionnaires and foreign experiences.
- examine the role of the forms developed for termination of the identified shortcomings and suggest the development directions of the exercises, the operational strain, the fire test and the training methods.

Among the professional activities I have limited my research to the rescue fire protection, although the use of the DMOS may also involve civilian, civil protection and industrial security activities (Hornyacsek, 2013). In terms of interventions and operations, I analyzed, evaluated firefighting events and based my personal experiences and pragmatic approach on the development of the developments (Tímár, 2013). I looked at the tasks or actions that I think could be improved, analyzed and deduced conclusions.

Conclusions and recommendations

The figures of the many years of existence of the Disaster Management Operations Service clearly illustrate the function of the organizational element, the relationship between interventions and other applications. I have shown that the elimination of damages is an element of the DMOS that, in addition to real intervention, participates in the coordinated operation of the official segment, such as alarm, tracing, reconnaissance, intervention preparation, intervention, its safe regulations and post-work tasks, fire investigation procedure (Tímár, 2015). Variable functions make the operation more colourful, so I declare that it can only partially parallelly with the organization of the former "Fire Fighting Group".

The parallel has a lot of similarities in the direction of firefighting, territorial distributions and the foundations of the formation. However, the service of the DMOS now functions more extensively, has more responsibilities and powers. I have determined that the Disaster Response Operational Service is a specially trained intervention unit of territorial bodies that has the competences that need to be professionally supervised by fire brigades (Tímár, 2015). Members of staff must meet high standards, both professional and health. I have shown that the DMOS is an organization of a regional disaster management body that is capable of performing complex, intervening, controlling and authority tasks.

The four different questionnaires were used to assess the opinion of the intervener, the management and the professional level of management, including the views of all actors in the activities related to the Disaster Management Operational Service (Tímár, 2013). There is a clear need for innovative solutions in terms of policy, service management and governance. The questionnaires reveal the basic difference in opinion that the DMOS is only active in and engaged in the firefighting field (operations, intervention-control, oversight of fire brigades) or a unit of the County Disaster Management Directorate that can be deployed at any time for the execution of all types of tasks (official activity, industrial safety and civil protection tasks).

Practical application of research results

The reasoning, guides, and development directions in my judgment can be taken into account in developing professional guidelines (Tímár, 2015). The outlined ideas and suggestions can positively influence the activities of the Disaster Management Operational Service so that it is possible to develop a development.

When an imaginative management structure is put in place, the county-level direct fire department is controlled by the DMOS and a direct statement of responsibilities is realized (Tímár and Tóth, 2016). This would create a way for DMOS to become the operational manager of fire extinguishers. Changing some of the laws would make the intervention smoother and would not be an unclear issue.

The introduction of what is known as a control protocol would make the control system more uniform and more effective. When using the protocol, standardization is performed, so the criteria system is independent of the controller (commander, DMOS, superintendent or national supervisor).

Due to the differences, circumstances and capabilities of the territorial organs and the Disaster Management Operational Services, my research has shown that it would be worthwhile to carry out further research. Differentiated tasks and dislocations, professional competencies and priorities, scientific research and case study analysis can be used to justify the elements to be renewed for the disadvantaged activity system (Tímár, 2015).

With regards to technical developments, it is necessary to formulate continuous innovation, that is, to further examine the application of specific technical equipment, solutions and tools, and analyze their application and use.

Closing remarks

Research into innovative technologies is a continuous and never-ending process. The more you research, the more questions and ideas you will come up with. Intervention is the basis of a fire-oriented research. Development in this area may be organizational, operational or technical, but in any case it is forward-looking.

I recommend the practical application of the results and methodology for the development of programs in the field of fire protection and education as well as for further detailed research.

References

Bérczi László: Az Extrém Körülmények Közötti Tűzoltói Beavatkozások Biztonságát Növelő Eszközrendszer Fejlesztések az Integrált Katasztrófavédelem Rendszerében; Doktori (PhD) értekezés; NKE; 2014.v

Fire and Rescue Service: Operational guidance - Operational Risk Information; Department for Communities and Local Government; ISBN: 978-1-4098-978-3374-1;

Hornyacsek Júlia: *A Katasztrófa-Kárterület Felderítésének Elméleti és Gyakorlati Kérdései*; Hadmérnök; ISSN 1788-1919; VIII. Évfolyam 1. szám

Muhoray Árpád: *Katasztrófamegelőzés I.*, ISBN 978-615-5527-85-2; NKE egyetemi jegyzet; 2016;

Muhoray Árpád: *A Katasztrófavédelem Aktuális Feladatai*; Honvédelmi Kulturális Központban a Mindenki Hadtudománya című előadássorozat keretében elhangzott előadásának szerkesztett vázlata, 2012.

Tímár Tamás: *The Hungarian Disaster Management Operational Service*; International Firefighter Magazine; ISSN 1744-5841; Issue 46; June 2013; pp: 101-104

Tímár Tamás: *Top Marks*; Fire & Rescue; ISSN 0964-9727; second quarter 2013 issue 90; pp 45-48

Tímár Tamás: *Extra back-up for when you need it*; Fire & Rescue; ISSN 0964-9727; first quarter 2015; issue 97; pp:46-47

Tímár Tamás: *A Katasztrófavédelmi Műveleti Szolgálat Tevékenységrendszere;* Hadmérnök online; ISSN 1788-1919, X. Évfolyam 2. szám; 2015. június; pp: 190-198

Tímár Tamás: *A Katasztrófavédelmi Műveleti Szolgálat Szerepe a Tűzvizsgálatban;* Katasztrófavédelmi Szemle; ISSN 2064-1559; 2015. 22. évfolyam, 3. szám; pp: 13-15

Tímár Tamás: *A Katasztrófavédelmi Műveleti Szolgálat Ellenőrzési Tevékenységének Fejlesztési Lehetőségei, az Ellenőrzési Protokoll*; BM Országos Katasztrófavédelemi Főigazgatóság, Dr. Balogh Imre Emlékpályázat; 2015, szakmai különdíj

Tímár Tamás – Tóth Tibor: *The disaster management operational service*; Magyar Rendészet; 2016/2. szám; ISSN 1586-2895

Assessing new technologies for Disaster Management: Lessons learned when applying the TGM during a civil protection exercise

Camilo Palacio Ramirez,MSc
National disaster management and research
Austrian Red Cross
Camilo.Palacio@roteskreuz.at

Abstract

The Trial Guidance Methodology (TGM) is a methodology developed by the co-founded European project DRIVER+ for preparing, executing and evaluating testing sessions- so-called Trials- for assessing new technologies that might help closing the operability gaps of organisations dealing with disaster management.

Under the framework of the project, the Austrian Red Cross, in close collaboration with several organisations and partners of the DRIVER+ project has organised the Trial Austria in parallel to the civil protection exercise IRONORE with the aim of testing five solutions while creating synergies between IRONORE and DRIVER+. The selected solutions focused on the following capability gaps: Improving situation awareness, improving the management of spontaneous volunteers, interaction with the population, incorporating information from multiple and non-traditional sources, and psychosocial support for both the population and volunteers.

This paper explains the experiences after applying the TGM in the Trial Austria including the challenges and initial outcomes as well as the lessons learnt from the perspective of the TGM and the practitioners.

Introduction to the DRIVER+ project

Current and future challenges, due to increasingly severe consequences of natural disasters, require the development and uptake of innovative solutions that the operational needs of practitioners are dealing with Crisis Management. DRIVER+ (Driving Innovation in Crisis Management for European Resilience)[1] is an FP7 Crisis Management demonstration project aiming at improving the way capacity development and innovation management is tackled. DRIVER+ has three main objectives:

[1] "The DRIVER+ project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under Grant Agreement n° 607798"

I. Develop a pan-European Test-bed for Crisis Management capacity development:
    a. Develop a common guidance methodology and tool, supporting Trials and the gathering of lessons learnt.
    b. Develop an infrastructure to create relevant environments, for enabling the trial (trials or experimentation) of new solutions and to explore and share Crisis Management capabilities.
    c. Run Trials in order to assess the significance of solutions addressing specific needs using guidance and infrastructure.
    d. Ensure the sustainability of the pan-European Test-bed.

II. Develop a well-balanced comprehensive Portfolio of Crisis Management Solutions:
    a. Facilitate the usage of the Portfolio of Solutions.
    b. Ensure the sustainability of the Portfolio of Solutions.

III. Facilitate a common understanding of Crisis Management across Europe:
    a. Establish a common background.
    b. Cooperate with external partners in joint Trials.

Introduction to the guidance tool Methodology

The project DRIVER has developed a methodology to evaluate the impact of solutions in emergencies and disaster. This methodology uses the collection of evidence that will help to assess if a specific solution meets the needs of a certain organization. It is therefore recommended that these solutions should be tested in a non-operational context, such as in a trial.

Trials differ from exercises. The latter aims at training and applying pre-standardized protocols and actions carried out by practitioners while the objective of the former is the assessment of the performance of a technology in a specific scenario.

The TGM consists of three distinct, but connected phases:

Preparation phase: The objective of this phase is to design your Trial. The design follows an iterative and non-linear six-step approach. It starts with the identification of the objectives and the formulation of research questions. In the Trial you should try to address the questions through an appropriate data collection plan as well as through evaluation approaches and metrics to analyze the data collected during your Trial. To do this, realistic scenarios must be developed and solutions to be trialed must be selected to figure out if they can be innovative.

Execution phase: This phase is much more than just the actual Trial. Before getting there, you need to check if you have everything you need to gather relevant data. After checking and testing, you are ready to run your Trial.

Evaluation phase: This phase includes or consists of a systematic assessment of the potential added value of the solutions that were trialed. When the analysis is done, you are ready to sum up the results, providing evidence on the impact of the solutions and to disseminate the results within and beyond your community. (DRIVER+, 2019)

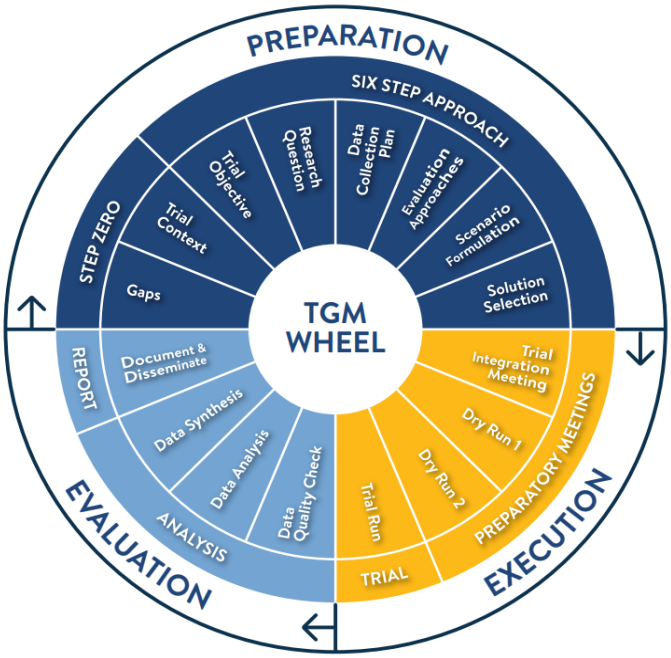


Figure 1.Trial Guidance Methodology

Trial Setup

The Trial was carried out in the framework of the European civil protection exercise (EUCP-EX). The EUCP-EX was organized as a Large Scale European Civil Protection exercise. National and international emergency organizations were present with their volunteers and experts while making use of equipment, vehicles and tools in simulated disasters scenarios.

The Trial's objective is to evaluate a selection of solutions contributing to international or national CM processes addressing the Crises Management dimension, especially in the fields of:

- Volunteer Management: in the sense of management of spontaneous as well as affiliated volunteers on the scene in terms of location, tasking, capabilities and duration of operations.
- Real-time data and information fusion to support incident commander decision-making: ability to merge and synthesis disparate data sources and models in real time (e.g. visualisation of resources, spreading models, tactical situation, critical assets map, damaged objects/infrastructure etc.) to support incident commander decision making and exchanging crisis-related information among agencies.
- Incorporating information from multiple and non-traditional sources: Reporting of dangerous areas and situation overview from multiple and non-traditional sources (e.g. crowdsourcing and social media) into response operations.
- Psychosocial support: Having the capability to measure stress and/or improving the communication and the awareness of psychological stress of those affected, especially spontaneous and affiliated volunteers.
- Interaction with the population: as including e.g. 1). Micro-learning capabilities to communicate to the population safety information and recommendations what they can do during a crisis. 2). Registration of affected people. 3). Delivering information from the public to the emergency management authorities.

Preparation phase

This phase involved several steps to identify the gaps we targeted, choose an evaluation approach and reveal solutions that might have a potential to assist in disaster management.

The identified gaps were in regard to volunteer management, including spontaneous volunteers, with an additional focus on improving the decision-making process through solutions with ability to provide reliable information to incident commanders. For the selection of solutions, a call for application was launched in October 2018 and 19 solutions from all over Europe applied.

After a review by internal and external practitioners, 10 solutions were invited to present their features in a workshop, resulting in the selection of five solutions, including one non-technical approach.

One of the most challenging steps was the definition of the data collection plan and specifically which type of data should be gathered.

Considering, that we have aimed at finding solutions to improve the decision making process and the management of spontaneous and affiliated volunteers, it was important to understand what the components of decision-making are; and what influences the management of spontaneous volunteers.

The components of decision-making can be described as follows:

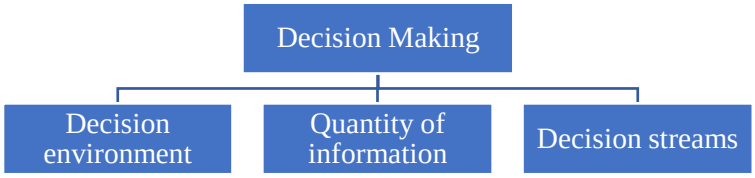


Figure 2. Components of decision making (based on Piu, 2013)

a. The decision environment is given by the scenario and influenced as well by the expertise of practitioners

b. The flow of information and how it can affect further decisions forms the decision stream

c. The quality of information is the measure of how the information is processed, in other words: Low quality information generally generates data (of information) rejection while good quality information leads to a decision.

This last component was of special interest to us and prompted us to define clearly what we want to measure in regard to decision making: **a. How the information is processed** and **b. Quality of information.**

Regarding the coordination of activities involving volunteers, especially spontaneous volunteers, it is important to consider what they are able to do.

Despite the motivation of helping during disasters, spontaneous volunteers should not perform any risky activities and their participation should be limited to supporting emergency response organizations in tasks where their life is not endangered and where they cannot endangered other´s life.

For a proper management of spontaneous volunteers, practitioners should continuously supervise volunteers and assign tasks according to their capabilities.

During the trial we wanted to quantify two characteristics of Spontaneous volunteers (SV): **a. How SV performed** and b. **How the information (Tasks or alerts) is perceived**

Defining how to quantify

Once we identified the characteristics to be measured, the definition of how to measure/collect data was followed. We selected three different approaches for data collection:

- Checklists to collect specific observation regarding expected behavior of participants.
- Questionnaires to collect first impressions after using solutions.
- Focus group discussions for better understanding of added value of solutions in disaster management

Who will take the measures

Given, that the trial Austria had a field component, five different profiles were envisaged to collect data depending on the participants' location as in the control room or in the field.

Participants: Includes practitioners, field practitioners and field participants:

They provide feedback regarding

- Quality of the execution of Trial Austria.
- Feedback on the use of each solution.

Data technique plan to be used:

- Semi-structured questionnaire (qualitative results), directly following each session in the Trial.

Observers and field **observers (CM experts observing the participants in the Trial):**

They provide feedback regarding

- Required observations on specified events or actions (a dedicated checklist will be provided).

- Observed organisational difficulties of Trial conduction, external constrains that may influence Trial results (solution assessment measurements).

Data technique plan to be used:

- Predefined KPI's and checklist. An Observer Support Tool is planned to be used in order to support observations collecting process during the Trial.
- Semi-structured questionnaire (qualitative results).

	Who will evaluate	What type of information is collected	How is the information collected
Solution Evaluation	Observers	• Behavior • Actions performed	• Checklist • Evaluation forms (questionnaires)
	Commanders & Participants	• Usability of Solutions	• Evaluation forms (questionnaires) • Focus groups/interviews
	Testbed	• Interaction between solutions • Actions performed by operators	• Logs

Table 1 Data collection summary

Sample plan

The Last step was the identification of the sample plan. This step is linked to the agenda of the trial and depending on running test session.

The sample plan comprises the following:

a. What measure is to be collected

b. Location for data collection

c. Who will collect the data

d. The number of data points collected per sample

Testing Session Name	What?	Where?	Who?
Emergent Groups	How the information is processed	Operations Room	Observers
	Quality of information		Observer+ practitioners
	How the SV performed	Field	Field Observers
	How the information (Tasks or alerts) is perceived		Field participants
Situation Assessment	How the information is processed	Operations Room	Observers
	Quality of information		Observer+ practitioners
Confirmation	How the information is processed	Operations Room	Observers
	Quality of information		Observer+ practitioners
	How the SV performed	Field	Field Observers
	How the information (Tasks or alerts) is perceived		Field participants
Chemical Spill	How the information is processed	Operations Room	Observers
	Quality of information		Observer+ practitioners
	How the information (Tasks or alerts) is perceived	Field	Field Observers
Psychosocial First Aid	How the SV permormed	Field	field Observers
USAR Sit Rep	How the information is processed	Operations Room	Observers
	Quality of information		Observer+ practitioners
	How the information (Tasks or alerts) is perceived	Field	Field Observers

Table 2 Sample plan

Execution Phase

After preparing the information and research questions, the next step was the organization of testing sessions and the execution of the Trial.

The initial meeting, called Trial Integration Meeting – TIM, helped to align the perspectives of the practitioners, solution providers and Trial committee. To draft the final Trial script, the participants discussed the integration of solutions into the practitioners operations, the required information exchange as well as the data collection and evaluation criteria to address the Trial objectives. (Driver+, 2019)

Two other meetings or first testing sessions have followed the TIM: the Dry Run 1 and Dry Run 2.

The Dry Run 1 meant to test the implementation of the steps in the preparation phase and to foresee what other needs should be considered for the execution of the trial, while Dry Run 2 is a full test of the trial aimed at testing the use cases, analyzing interaction between solutions and evaluating whether requested data can be collected.

Finally, the phase of execution was concluded with the actual trial, which is the real test where solutions are assessed, and data are collected for further analysis of their benefit and potential for disaster management.

Results and lessons learned

Since the Trial Austria was the last trial out of four, organized by the DRIVER+ project, the outcomes and experiences of previous trials were considered throughout all different phases allowing the application of main steps of the TGM in a logical way.

Gap in preparation phase were quickly identified and defined by practitioners based on previously known needs. The most challenging part was the definition of proper research questions and KPIs as a result of since practitioner's lack of expertise in this type of activities. This could be overcome by establishing tight collaboration with academic or research organisations.

The call for application caused some misalignment between solution providers' interests and project interest. The call for application described the detailed scenario and requested technologies, which the project was interested in, to reveal the defined gaps. Some Solutions

providers applied with solutions that matched the scenario but missed addressing the gaps. Other solutions providers misinterpreted the trial as a showcase with commercial purposes thus causing certain misinterpretations.

It is important to note that the selected solutions offered some degree of innovation, which might not be sufficient to close the gaps. For that reason, we created synergies between different solutions and defined testing cases that allowed us to challenge the features that the project was interested in. At the moment of preparing the scenario, one should know very well the features of the technologies to be tested.

The Execution phase started with the trial integration meeting which was the first meeting between all stakeholders with the aim of learning both practitioner needs and solution features. This meeting has proven to be a good practice since solution providers were able to talk with one another and visualize potential synergies. On the other hand, some of the providers felt frustrated since they had an impression that their solutions were selected considering ALL features which was not the case. The project wanted to test only the features that were considered innovative. As a result, one of the selected partners expressed their desire not to continue with the process any further. A backup solution was included to cover the features of the solution that dropped out. However, the features of the backup solution were way too different compared to the one initially selected and some adaptations to the testing cases were done in order to test those features.

From this experience it is important to highlight the following:

1. Prepare a TIM meeting for allowing all stakeholders to get to know each other.
2. Inform solution providers beforehand why their solution was selected and what your expectations about the solution are.
3. Define a detailed working plan with the provider.
4. Be familiar with the features of the solution in order to develop appropriate use cases.

For the collection of data, the project has used a tool, which was developed by the project itself to collect data not only from the solutions but also from the test bed and observers. This solution, called observer support tool-OST, was used previously in other trials and improvements were done along the project. For Trial Austria it was important to have an offline version of the tool,

since several activities were foreseen to be outdoors. OST proved to be a useful way to collect data for further analysis because it is complemented by the information on the test- bed. Nevertheless, some issues developed at the moment of executing the trial and "last minute" changes were hard to implement in this tool.

Similarly, the offline version has shown some repeated data when synchronizing with the server; in this regards, it was easy to detect the repeated data by comparing the comments within the observations, but it was not the same when having only inputs. For collecting data, one should consider the following:

1. Make use for the data collection, digital tools that facilitate the registry of observations and that provides the results in a format that can be easily processed by statistical tools.
2. Involve in all discussions, including the discussions regarding use cases, the person(s) in charge of developing the questionnaires as well the management of the tool.
3. Make sure to differentiate each of the observations according to the profile and the session where it was tested

Observers are very useful as they collect data and provide feedback about the use of the solutions in crisis management, of course if they have the expertise to do so. One of the difficulties we faced in the trial was the difference between observers and evaluators. Observers are meant to collect behavioral data or identify actions happening at specific moments. While evaluators do essentially the same as observers, there is a conceptual difference since evaluators provide a judgement according to protocols or standardized guidelines. Select the ones appropriated for your trial and be familiar with the expectations of the observers/Evaluators.

Having the Dry Run 1 and 2 at the same location of the trial, revealed possible logistical constraints and one needs to have a plan for that beforehand. While Dry Run 1 helped to check the technical preparations and communication among solutions, Dry Run 2 was used to test the real implementation of the TGM and improve the requirements that practitioner needs to perform during the trial.

This involved aspects such as training of practitioners, training of observers and evaluators, use cases tested, logistical needs, data collection, assignment of roles and responsibilities, among others.

The last step was executing the trial, which ran with no major issues thanks to the structured methodology the TGM provides. The test bed was able to support the exchange of information among solutions, the data were collected according to the evaluation plan and no session has suffered any major loss of data. As lessons learned we can highlight a better preparation for last minute changes that were needed in order to get proper tests of the solutions, referring specifically to observer's preparation and data collection. In one of the sessions, the solution to be tested required certain weather conditions to be operative. The conditions were defined for a different timeframe and an OST was not able to include the questionnaires needed to collect the data. However, the data collected to assess the solution was already taken in another session thus this situation did not affect the evaluation of the solution. The observers were also confused since they were not briefed properly about this change and their observations about the new session where partially collected.

Focus group discussions as first impression evaluation were very useful not only for the evaluation of the solutions but for solution providers as a feedback to improve their solutions.

Conclusions

The TGM has proven to have potential for performing sessions for testing new technologies for disaster management. The methodology guides users to consider what is needed in order to perform these sessions. However, there are some areas where the TGM lacks more information; for instance, it is not mentioned how many observers are needed for a certain observation, how practitioners' skills are matching with solutions features and how many solutions can be tested in a single trial.

The TGM can be useful to test similar solutions for defined gap because it can provide the platform to compare different solutions and select the one that fulfils practitioner needs the best. On the other side, the organizers of a trial should be aware that a single session or trial might not provide sufficient evidence to make the final decision. Several trials with several practitioners, and possibly different scenarios, are envisaged to get a more objective assessment of solutions.

References

Piu, Pietro (2013). Decision making process: components and time effect.Retrieved from https://statsneuro.blogspot.com/2013/02/decision-making-process-components-and.html

Driver+ Project, Trial guidance Methdology hanbook, 2019. Available for download here: https://www.driver-project.eu/wp-content/uploads/2019/11/TGM-Handbook_final-min.pdf

Disclaimer

"The opinions expressed in this document reflect only the author's view and reflects in no way the European Commission's opinions. The European Commission is not responsible for any use that may be made of the information it contains."

The Correlation of Climate Change and Extreme Weather Events

Dr. Réka Kirovné Rácz, PhD, major
senior lecturer
Institute of Disaster Management
National University of Public Service
kirovne.racz.reka@uni-nke.hu

Introduction

Climate change has been a much-debated subject for many years now. According to some opinions, there is no causal link between the changes in the climate and the frequently occurring natural phenomena that are becoming more extreme and unusual. These voices suggest that it has to be accepted that unprecedented blizzards, floods, storms and other natural disasters can occur any time.

It is my strong belief that our environment, the nature wishes to signal to us that it is unfortunate to strengthen the effects of climate change with the pollution of the environment and our way of living, which does not respect nature and is wasteful, because the environment will answer with drastic weather anomalies and natural disasters.

Today, the mitigation of the harmful effects of climate change and the compliance with these effects have to be regarded as a global goal. (Rácz, 2008)

The past few years have brought the recognition of the importance of this problem in Hungary, and the realization that it is not enough to talk about it, actions are needed.

Unusual and extreme natural phenomena and weather anomalies have become more frequent. They effect the whole of society, therefore we have to start applying to them in all social and economic fields.

About the Hungarian disaster management system and the specific types of disasters in Hungary

In Hungary the disaster management is national matter, what meaning that from the ministry level to the citizens, everybody has responsibility, task and rights. It's established by the law, but the fulfilment is a big task nowadays.

The official organisations structure of disaster management in Hungary:

- the central organisation – National Directorate General for Disaster Management, Ministry of Interior (NDGDM)
- the territorial organisation – County Directorates of Disaster Management
- local settlement – Local Sub-Office of Disaster Management (NDGDM, 2017)

And parallel this structure the System of National Protection is:

- Disaster Management Coordination Center – Inter Ministerial Scientific Committee
- County Protection Committee
- Local Protection Committee with the major of the settlements

And parallel to this we have volunteer disaster management teams, which have three level too:

- central
- county The classified team members are twenty two thousand.
- local.

These teams specialized for the local dangers, for example: water rescue, water protection. So the three main pillar of our disaster management system are :

- fire service
- civil protection and
- industrial safety.

The most specific types of natural disasters in Hungary:

- floods,
- inland waters,
- flash floods,
- extreme weather events, for example: storms, extreme temperatures, extreme rainfall)

And the most specific types of civilization disasters in Hungary:

- traffic accidents,
- fires,
- accidents of hazardous substance.

Based on the experiences of the past years, it can be concluded that extreme, immoderate weather events – which can be associated with the global climate change – have become more

and more frequent, intensive and bear ever more striking features, such as the fall of sudden, torrential precipitation in great volumes or the appearance of a form of precipitation previously not characteristic for the season (such of snowfall in April 2017, or the deluge rainfall in May 2017. Budapest)

It is a fact, that the events occurring due to these extremities place extra duties today's disaster management organizations and put coping strategies in a different light with regard to prevention, response and recovery as well.

Today, disaster management organizations, beside their traditional duties in fire prevention, civil protection and disaster management must face serious challenges with special regard to the security and disaster management questions posed by climate change. (Lóderer, 2011)

The correlation of extreme weather events and hydrological disasters

In my view, a clear and close correlation can be revealed based on the experiences gained from the past years and decades between the changes in these features of precipitation and the increased risk of the occurrence of disasters in hydrological origin.

In Hungary the precipitation fall immensely various quantity year by year, and it's distribution in the year is immensely various too.

The water shortage and the excess water might be problem in social level, if there isn't efficient response for the resulting extreme situations, for example flash floods, inland water, drought, or shortage of drinking water)

In May and June 2018, and in this year too, at the national level, occurred lots of damage which was correlate extreme rainfall as good as week in week out. (For example flash floods, water flooded part of villages, dilapidations and glissade of flood protection build- ups.)

And after these events, from July to November in 2018. there was so lack of rainfall, that the water level of Danube was record law.

Resulting the extreme rainfall, the most- significant damages are in the built environment.

The intense rainstorm usually occur with ice falling, and high wind. The reconstruction after this events is intensified challenge for the whole society in our days.

The extreme weather situations in public events, like open- air festivals can cause mass panic, and in this case grow the chance of personal injuries.

The forecast of the extreme intensity and quantity precipitation is really limited. The type, the quantity, and the roughly place of rainfall is predictable, but the intensity of rainfall not.

Now this parameter causes the most significant problems, because the limited capacities of the zanjons. It's not just the same, that as many precipitation fall dawn in one hour or one day. If the zanjons can't lead away the extreme intensity rain, the water will deluge the deeper areas, for example garages, cellars, or underpasses.

The potential response of Hungarian disaster management system for the challenges of climate change (Kirovné Rácz, 2015)

In our National Disaster Risk Interpretation includes the impacts of climate change, and determines the Hungarian disaster risk. Every County Disaster Management Directorate make terminally an emergency prognosis in virtue of the experiences of predecessor year. This prognosis forecast the potential situations and, in this context, prepare the human and technical device both.

In my opinion, the basis for successfully preparing for these is found in the extensive, high-standard and complex training in emergency management. The fundamental tasks of disaster management are prevention, response and recovery. The importance and key role of prevention have been pointed out on numerous professional and scientific channels. In my view, the basic building blocks of successful disaster management are well-trained professionals with up-to-date, current and profound professional knowledge, as well as well-informed civilians who acquired their knowledge from modules in school education.

In my opinion, as with any profession, the basis of the effectiveness, quality and efficiency of disaster management lies in high-standard education. I believe that it is extremely important that the training material of existing and future disaster management professionals includes information about climate change, thus providing them with the knowledge that sheds light on the causal link between natural disasters and climate change, and helping them in effectively planning prevention and protection.

Statements on climate change call our attention to the fact that it is necessary to spread information about climate change among the population and to include this information in school education material from the elementary school level up to university training.

In my view, the whole of society can benefit from the knowledge about climate change. On the one hand, for moral reasons, so that we become aware of the effects of our wasteful and polluting way of living. On the other hand, for possible innovations, since the more people are aware of and concerned by this problem, the greater the chance for the success of a global social union to control the change and to comply with its effects.

In my opinion, one of the chief duties of disaster management professionals is to be aware of the complexity of this problem, to comprehend its effects on the operation of the organization using systems thinking, and beyond it, to understand their role and responsibility in solving this problem and in complying with the effects of climate change.

I believe this, because the tasks of disaster management and the job of disaster management professionals are considerably influenced by weather anomalies.

Weather extremities caused by climate change affect virtually all fields of disaster management from flood prevention to the protection of critical infrastructure, fire safety and technical rescues. In spite of this, however, the core material in emergency management training programs currently includes insufficient amounts of information about climate change. The programs lack a dedicated course that would shed light on the complexity of the problem and would prepare students with systems thinking for acknowledging these effects in their respective fields of work.

It is my strong opinion, that beyond disaster management trainings, it would be crucial to include information of climate change in public education from the primary school to the post-graduate level, so we could live in a more environmentally aware and responsible society, and so could our children.

References

Rácz Réka: Az Egyesült Királyság éghajlatváltozási programjáról, in Hadtudományi Szemle 2060-0437 1 1 75-84.pp., Budapest, 2008.

BM Országos Katasztrófavédelmi Főigazgatóság (NDGDM) http://www.katasztrofavedelem.hu/index2.php?pageid=polgarivedelem_index Retrieved 30.10.2019

Lóderer Balázs et. al.: A klímaváltozás és annak következményeire való felkészülés lehetséges jövőbeni aspektusai, Hadtudományi Szemle 2060-0437 4 3 91-98. pp., Budapest, 2011.

Kirovné Rácz Réka Magdolna: Az éghajlatváltozás okozta hidrológiai katasztrófák elleni védelem oktatásának helyzete, fejlesztési lehetőségei Doktori (PhD) értekezés, NKE, 2015.

Human ecological approach of the research and development network building, in the Danube catchment area.

Balázs Kern
ARTTIC International Management Services
kern@arttic.eu

György Leskó
Doctoral School of Military Engineering
National University of Public Service
Lesko.Gyorgy@uni-nke.hu

Abstract

One of the significant challenges of recent times has been the issue of sustainable development. One of the prerequisites for minimizing environmental hazards and increasing resilience is the application of an ecological perspective approach in research & development. One of the most dynamically developing interdisciplinary fields of science, human ecology, is looking for a solution in the area of hydrological emergencies to reduce damage events and increase resilience in the Danube River Basin.

Introduction

Water, one of the critical elements of the biosphere, has always been the focus of community interest during history. It is an essential condition of life and a threat to human life, material goods and the survival of the public. One of the significant issues of our time is the global environmental crisis that threatens the quality of life and sustainable development of the biosphere. It is no coincidence that there are a significant number of water-related projects among the research development initiatives of the European Union. One of the projects supporting sustainable development is the Danube River Region Resilience Exchange network (DAREnet). A vital element of the project is the contribution to the development of the resilience of populations to respond to hydrological emergencies. The Danube River Region Resilience Exchange network project is to support flood management practitioners across the EU Danube river region and from different disciplines to deepen and broaden their Research, Development and Innovation (RDI) related collaboration. DAREnet builds a multi-disciplinary community of practitioners, operating in a network of civil protection organisations, and supported by a broad range of stakeholders from policy, industry and research. Together they build a transnational and interdisciplinary ecosystem to foster synergies, innovation and its uptake. One of the key-results of DAREnet is a regularly updated Research Development Innovation Roadmap highlighting promising innovation opportunities to cope with the main

environmental and societal challenges of the region (see 1st Edition of the DAREnet RDI Roadmap). It provides concrete perspectives for the further development, industrialisation and uptake of innovations of highest relevance for practitioners. The Research Development Innovation Roadmap is intended to lay the basis for specific innovation initiatives, practitioner-driven and "bottom-up", building a unique portfolio of joint innovation concepts for the Danube river region. Although the primary goal of the DAREnet project is to build a resilience network, it is not a typical research and development project aimed at developing a product, service or technology. However, it is an essential task of the network to support research development and collaborate on new initiatives.

The question arises in which scientific environment can the objectives of the project be achieved optimally? Which disciplines tools are available to solve hydrology research and development problems? The DAREnet partners have realized that flood related problems are increasingly challenging, and therefore intense cooperation in the science environment is a strong necessity in the Danube river catchment area. In this context it has to be mentioned that whenever the innovative project network develops new solutions in the field of flood control, it is always combined with risk. Risks are involved in many activities of research development approximation in the water catchment area. Risks are, of course, still everywhere in the river basin area, and network aims to support minimizing or managing this complex and integrated threat. Risk is part of a more significant activity that we call adaptability or in other words resilience. "*The one and only method to achieve it is the formulation of the complex system of defence planning, and the availability of personnel, equipment and capacities accordingly, which the responsibility of politicians and the obligation of experts*," (Hornyacsek, 2012) states Julia Hornyacsek. The statement points to a complex, integrated system of protection planning, including flood protection. Implementing a resilience network project in the field of flood control is both a human resource and a technology development issue. We assume that the research environment is essential for the implementation of the project and its results. The persistence of flood control issues in nations of the Danube water catchment area has given rise to innovative concepts that advocate an integrated approach to address complexity, integrity and uncertainty. In addition to the scientific exploration of project initiatives, another critical area of research is the selection of appropriate procedures. Advanced procedures, both based on quantitative and qualitative information analysis, can be used to increase project implementation efficiency. To research the optimal methods of the project, we present the

objectives of the project, and the results achieved so far, which determine the research of the scientific background and procedure.

The necessity of the scientific approach is in the evaluation of research and development projects

Water is an essential element of the biosphere. It is vital for all living organs. The surface waters of rivers and lakes plays a decisive role in the life and history of the public. The history of humankind and communities is, however, the history of the transformations of nature and human conflicts. Inadequate intervention in the environment increases the risk and occurrence of natural disasters and emergency situations. The information society and today's globalized world have evolved in three waves, according to the popular theory of Alvin and Heidi Toffler[2]. The first wave of evolution was the transformation from the fisher-hunter-gathering lifestyle, classless tribal communities into a class society engaged in agricultural production. The second wave was the Industrial Revolution, which resulted in large-scale globalized goods mass-production. The third wave of the digital revolution is taking place today and creating a new post-industrial, information society (Toffler, 1980). In this regard, the questions addressed by a research and development support network project must be solved in this rapidly changing scientific environment of the post industry info-communication new world. Developing flexible resilience against the flood impacts within the Danube River Basin is a complicated and complex integrated task. The search for optimal solutions for innovation requires the use of the results of science in an interdisciplinary approach to research and development. Consequently, the question arises which discipline can accommodate and optimally address the full range of hydrological hazard situations in the river basin. According to our hypothesis, ecology is probably suitable for this mission. The relationship between organisms and their environment is the major study area of ecology. This bio-centred science branch can provide appropriate support for the project. Baloghné and Nyakas (2005) describe the ecology as the examination of "*the interactions of living beings with each other and with the inanimate environment*" (Baloghné and Nyakas, 2005.). The highly diverse interdisciplinary discipline "*seeks an answer to the conditions under which the unity of the two in the biosphere can be maintained.*" (Godó, 2011) Thus, the development issues related to the protection against hydrological hazards also

[2] Alvin and Heidi Toffler were two American writers, futurists, and known for their works discussing modern technologies, including the digital revolution and the communication revolution, with emphasis on their effects on cultures worldwide.

arise concerning living organisms, the natural environment and the built environment. Therefore, the scientific approach is evident. While there have been several international initiatives centred around hydrological sciences and technical procedures of flood management and control, the social and environmental discipline aspects of flood management have been dealt with sporadically and in a limited manner. The importance of an eco-efficiency approach is becoming increasingly prominent in the flood control operation as well. The need to protect ecosystems is a significant societal expectation in the Danube River Basin, which is strongly reflected in the area of flood protection.

The definition and interpretation of (human) ecology in hydrological hazard management is different in international literature (for instance Rauber R, Marshak S, 2017) and not fully understood by Hungarian experts. In the Anglo-American research environment, ecology is a much broader field of science than Hungarian ecology (or German Ecology); is consistent with the syn-biology used in the domestic literature. This nature science is broadly understood to encompass most areas of biology. Narrowing the notion is part of the science of syn-biology that deals with supra-individual levels of organization (population, association, ecosystem, biosphere) in the living and inanimate world. In the English-speaking area it has become known as "natural history", but the use of the term "ecology" is gaining ground, which presupposes a much broader scope than the application of the Hungarian scientific field (Horváth B, Pestiné Rácz É, 2011). The two areas of ecology are as follows: (Tamás, 2008).

- ecological and environmental influences (living organisms, populations, and population groups);
- receiving and determinative factors and their interconnections;

The spatial approach to river basin management in the field of flood control can be adequately explored using human (citizen) and environment interactions. Human ecology is an interdisciplinary and transdisciplinary study of the relationship between humans and their natural, social, and built environments which can fulfil this role most suitably. Human ecology is the discipline that inquiries into the patterns and process of interaction of humans with their environments. Human values, wealth, lifestyles, the use of resources, and waste, etc. must affect and be affected by the physical and biotic environments along urban-rural gradients. The nature of these interactions is a legitimate ecological research topic and one of increasing importance" (McDonnell M and Pickett S, 1990). In our view, this importance may be the scientific background of a project supporting research and development for hydrological emergency resilience.

The Danube river region resilience exchange network project

The DAREnet project supports flood management professionals in the Danube River Region and across disciplines to deepen and expand their research, development and innovation cooperation (see http://darenetproject.eu/hu/ for further details). DAREnet builds a multidisciplinary team of professionals working within a network of civil protection organizations, supporting a broad range of policy, industry and research, creating a transnational, inter-disciplinary ecosystem to promote synergies and innovation. One of DAREnet's key deliverables is a regularly updated Research, Development and Innovation (RDI) Roadmap highlighting innovation opportunities along with the region's critical environmental and social challenges, providing concrete perspectives for significant innovators.

Picture 1. Participants of the DAREnet project in Vienna

The RDI Roadmap is the result of systematic evaluation and ranking of promising innovations, including standardization, to facilitate the development of common capabilities. Within DAREnet, a specific networking and community building concept has implemented, where professionals can identify and analyse relevant innovation gaps and standardization requirements. Professionals in academia and industry support common priorities and initiatives stemming from a critical performance, cost/benefit and feasibility assessment, demonstrating that a specific innovation can effectively support trans-regional preparedness and response. The evaluation is based on transparent, measurable and verifiable criteria related to the practice.

The DAREnet network is a supporting instrument of R+D

DAREnet has established a dynamic multi-disciplinary community of practitioners, operating in a network of civil protection organisations. This practitioner community supports a frequent communication and cooperation platform for experts dealing with floods. According to our experience, the DAREnet Community and the national networks have supported intense professionals' collaboration of various stakeholders from policy, industry, research and government, NGO intervention powers. This platform works as an interdisciplinary ecosystem to foster synergies, innovation and its uptake across the Danube Region. The DAREnet partner organisation and initiator of the national DAREnet network in Hungary is the Hungarian Civil Protection Association (for more information see http://www.mpvsz.hu/). The Association is a public benefit organisation consisting of voluntary members. The Association considers humanitarian participation its prominent task, in the event of natural and civilian disasters. Further goals of the Association are the active taking of measures, serving the protection of the stricken population and the material property, and especially in the information and preparation of the community, the education of the youth, the establishment and training of voluntary organisations, mental care, the distribution of aids and the support of voluntary actions (Kozák A and Hornyacsek J, 2012). The Association reorganized in 1991 as a successor of the Air Defence League which was established in 1937 and operated in the years of the Second World War until 1945 successfully. Main mission of the association is support of inhabitant's protection in pace and war time, in the taking of measures coming under the ruling of international agreements (Additional Protocols I.-II. to the Geneva Conventions for the protection of war victims) on the protection of war victims (Tóth R, 2000). The Association acts for the representation of corporate interests, and this activity is part of exercising civilian control because of the civil protection tasks (Endrődi,2012). The Association regards the regulations and objectives of the Geneva Conventions, the Fundamental Law of Hungary and the Act on Civil Protection and Disaster Management, and the direction of protection against emergencies as guiding principles. The NGO supports the objectives of the EU Community Mechanism for Civil Protection. The Hungarian Civil Protection Association (HCPA) has served the aim of the Maastricht principles. Which, through the strengthening of decentralisation, the cutback of the state central systems as necessary, and the increased involvement of the civilian society in public life and public activities, reduce the financial burdens of the state and the unnecessary bureaucracy, and makes public administration more democratic and flexible (Hornyacsek J, 2017). The HCPA has a total of approx. five thousand

members, the number of supporting members is significantly higher. The Association performs important public benefit activities. It regards as its main task continuous support of tasks of integrated disaster management, including the current issues of protection against terrorism. For this, it regularly assumes, following its possibilities; on the World Civil Protection Day, organized every year, and at different local events. It reports annually on its work, on its public benefit activities to the General Assembly of the Association. HCPA has extended experience in working with disaster-prone areas across the country.

DAREnet national network of the Hungarian Civil Protection Association

The Hungarian national network was founded after the DAREnet project's kick of meeting in September 2017. As a first step, the Hungarian Civil Protection Association as national network leader analysed possible partners on national territorial and local levels. In a next step, information material on the project objectives and partner expectations was produced and distributed among potential partners. The management of the Hungarian Civil Protection Association and the Hungarian DAREnet project team have defined and accepted the guidelines for the milestones and directive of network development in an extended presidency meeting. According to a specific strategy for network building, HCPA has introduced several national civil protection volunteer organizations in the first round. Currently HCPA is identifying and involving voluntary emergency organizations in the field of hydrological crisis situations. The regional and local level emergency organizations have involved through pre-existing civil protection voluntary organizations. The Hungarian Civil Protection Association has a valid cooperation agreement with the Hungarian National General Directorate for Disaster Management. The Association regularly informs the General Directorate about the progress of the project so that it is extending the national network. This cooperation ensures to use procedures and knowledge agreed with the state organization in the area of network activity. The creation of the network was fundamental to the pursuit of research development activities. The HCPA established a working group to develop the concept. The working group has defined three main directions of network development:

- voluntary organisations
- scientific and education societies and institutes
- organisations of area of production and research development

Following this, HCPA's strategic partners are the Hungarian Civil Protection Scientific Society as well as the National Public Service University's Civil Protection Department of the Disaster

Management Institute, which is supporting the Society. The Association has established contacts with the Faculty of Water Sciences, the youngest faculty of the National University of Public Service, beginning its operation in Baja on 1 February 2017. Water science education in Baja has nationwide significance and appreciation. The water management of the future will fundamentally define the world's and Hungary's development, economic performance, food security, environmental status and the quality of the population's life. The availability of water in adequate quantity and quality and the protection from water damage make water management a strategic sector, with engineering and water diplomacy knowledge being among the most important values of our time. Further important network members in Hungary are the Disaster Management and Civil Protection Section of the Hungarian Society of Military Sciences and the Hungarian Environment Association (Endrődi,2013). First network meeting with county civil protection (HCPA member organizations NGOs (regional and local) and Hungarian Civil Protection Scientific Society date 11/09/2017 place Budapest. Representatives of the organization's participants defined the network's strategy and work schedule. Continuous cooperation ensures valuable and experience-based inputs of the stakeholders to the national network. The formulation of needs based on experience and a science-based approach means the reliable outcomes for project development.

The CODEvdic project[3] as direct outcome of Hungarian DAREnet national network activity was established as a networking initiative through the work of organizations engaged in scientific and voluntary networking. For example, CODEvdic project was created with the cooperation of science and voluntary network organizations. The project supports opportunities for reducing the increasing disaster incidents and the degree of harm they cause to the community, both by increasing the resilience of vulnerable populations and by developing the human and equipment aspects of intervening volunteer organizations. The outputs generated by the network activities reinforce the core activities of the participating organizations and are fed into the Hungarian integrated disaster management system.

Summary

The Hungarian network is an essential element of project realisation. The interdisciplinary approach to human ecology is at the heart of the river basin research activity. The social ecology-based project management has been established as a well-defined procedure for

[3] Common Development of Disaster Intervention Capability, supported by the Hungary-Slovakia-Romania-Ukraine ENI CBC Programme 2014-2020 (http://codevdic.polgvedsujhely.hu/)

handling risks due to natural, environmental or human-made hazards, of which floods are representative. Using this integrated social-ecological approach catchment model, the change in risk can be identified for river management and flood protection strategies and solutions. This approach will facilitate dialogue between government, voluntary organisations, education, industry and other stakeholders in the use and management of the flood control planning and assist with the development of sustainable solutions to unacceptable flood risks. The approach illustrated provides the following physical and societal dimensions to development for flood control advantages:

- Environmental changes such as the weather of the river basin and the long-term climate change are the most important interventions of the hydrological system. Climate change depends on the change in precipitation above the basin, in terms of type, pattern and frequency. The next difference lies in human adaptation and the type, density and successive genetic changes of land cover, agricultural practices and vegetation.
- Responses to societal ecological developments and flood risk prevention have two components: the likelihood of a flood event and the consequences of flooding for human and material loss. The resilience to flood risk diminishes with increasing economic and social development, especially if the flood has significant economic consequences. The likelihood of flooding is decreasing as new standards for flood control systems increase.

The proposed project activity direction has supported a higher level of optimal project activity and assumes better results in the reduction of hydrological hazards and increased flood resilience in area of Danube river basin.

Acknowledgement

The research leading to these results has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No. 740750 (DAREnet project).

References

Baloghné Nyakas A. (2005). *The Basics of Ecology (Az ökológia alapjai)*. Debrecen: DE-AGTC-MTK, Department of Agricultural Botany and Plant Physiology.

Endrődi I. (2012). A magyar önkéntes polgári védelmi szervezetek szerepe az új katasztrófavédelmi törvény alapján. *Védelem Tudomány, Online Tűz- És Katasztrófavédelmi Szakkönyvtár,* Xix:(5) pp. 11-14.

Endrődi I. (2013) A közlekedési ágazat kritikus infrastruktúra elemei, kapcsolatuk a katasztrófavédelemmel, figyelemmel az Európai Unió Kritikus Infrastruktúrák Azonosításáról és Kijelöléséről szóló 2008. évi 2008/114/EK Tanácsi Irányelvében megfogalmazottakra. *Fejezetek a kritikus infrastruktúra védelemből, kiemelten a közlekedési alrendszer*, Budapest: Magyar Hadtudományi Társaság, Budapest. pp. 238-267.

Godó Z. (2011). *Agro-ökológia*. Letöltve: 2019. 09.12-én: https://www.tankonyvtar.hu/hu/tartalom/tamop425/0021_Agro-okologia/adatok.html

Kozák A and Hornyacsek J. (2012). A polgári védelem kialakulása, szerepe a katasztrófavédelem egységes rendszerében. *Bolyai Szemle*, XXI. évf./2. szám pp. 157-184.

Mc Donnell M. J and Pickett S. T. A. (1990). Ecosystem structure and function along urban-rural gradients. An unexploited opportunity for ecology. *Ecology*, Vol. 71, No. 4 pp.1232–1237.

Hornyacsek J. (2012). The complexity of the defence planning in Hungary, the function and place of the civil protection and disaster management plans in the defence planning system. *Bolyai Szemle*, XXI. évf. 1. szám pp. 29-54.

Hornyacsek J. (2017). The Relationship Between the Tasks Aimed at the Prevention of Extraordinary Incidents, the Preparation for the Mitigation of their Consequences and the System of Protection. *AARMS*, 16 évf.1 szám pp. 41-65.

Horváth B and Pestiné Rácz É. (2011). *Ökológia*. Letöltve: 2019. 09. 12-én: https://www.tankonyvtar.hu/hu/tartalom/tamop425/0021_Okologia/ch01s02.html

Rauber R and Marshak S. (2017). *Earth Science.* W. W. Norton & Company, Inc. New York.

Tamás J. (2008). *Agrárium és környezetgazdálkodás*. Mezőgazda kiadó. Budapest:

A Toffler. (1980). *The Third Wave.* Bantam Books, New York:

Tóth R (2000). *A Magyar Polgári Védelem fejlesztésének szükségessége, lehetséges iránya, a NATO tagság, a Magyar Honvédség korszerűsítése és a hazai katasztrófavédelmi rendszerhelyzetének tükrében.* Budapest: Doktori (PhD) értekezés, Zrínyi Miklós Nemzetvédelmi Egyetem,

DAREnet Public Report (2019). Research, Development and Innovation Roadmap, 1st Edition. http://darenetproject.eu/wordpress/wp-content/uploads/2019/10/DAREnet-1st-Edition-of-the-RDI-Roadmap.pdf

DAREnet flyer (2019). http://darenetproject.eu/wordpress/wp-content/uploads/2018/10/DAREnet_Flyer_3_final.pdf

Die steigerung der widerstandsfähigkeit der bevölkerung gegen die folgen des extremen wetters

Júlia Hornyacsek
associate professor
National University of Public Service
hornyacsek.julia@uni-nke.hu

Abstract

Das aussergewöhnliches Wetter macht das Leben der Bevölkerung sehr schwer. Die folge ist oft Black out. Ein langdauernder Stromausfall ist besonders belastend. Es kommt die Frage: Wie betrifft es die Bevölkerung? Wer hilft und wie bei solchen Fällen dem Staatsbürger in Ungarn? Haben die Leuten Reserven um die Lage zu ertragen? Die Professorin stellt ihre empirische Untersuchung vor, und gibt einige Vorschläge wie man die Resilience und die Wiederstandsfähigkeit der Bevölkerung erhöhen kann.

Einleitung

In den letzten Jahren zeigten zahlreiche bedauerliche Ereignisse, dass der Klimawandel und seine Folgen auf unser Leben sehr intensiv auswirken. Der Alltag hat uns vor Augen geführt, dass die Bevölkerung bei Katastrophen weitgehend schutzbedürftig ist. Die Katastrophenfälle haben auch deutlich gemacht, dass eine der wichtigsten und unaufschiebbaren Aufgaben der Gesellschaft die Steigerung der Widerstandsfähigkeit der Bevölkerung gegenüber den Folgen von Katastrophen ist. Diese Ereignisse der letzten Jahre in der Welt haben uns auch einen Trend nachgewiesen: die Anzahl der Katastrophen hat sich erhöht und ihre Wesensarten veränderten sich stark. Da Katastrophen und Bedrohungen äußerst schwerwiegende Folgen haben, ist es entscheidend für die Zukunft unserer Gesellschaft, die Resilienz der Bevölkerung zu steigern. Nur so können wir Menschenleben effizient und effektiv schützen. Die Fachleute und die Forscher sind überzeugt, dass es gar nicht genügt, die Schäden zu beheben und die Bevölkerung von den Folgen der Katastrophen erst nach dem Ausbruch dessen zu schützen. Die Prävention und die Vorbereitung der Bevölkerung und der Schutzkräfte auf die Gefahren sind immer wichtiger und wichtiger. Dieses Verfahren würde weniger kosten und die Schutzorganisationen könnten es einfacher verwirklichen. Was noch wichtiger ist, weniger Schaden würde entstehen. Es gibt immer mehr wissenschaftliche Forschungen, die beweisen, dass die Selbstvorsorge eine große Rolle spielt.

Vorstellung von Forschungen, die zum Thema geknüpft werden können

In den letzten zwei Jahren hat sich den Forschern in Ungarn eine einzigartige Möglichkeit eröffnet: Es gab die Gelegenheit, im Rahmen des „Széchenyi 2020"- Programms an einem wissenschaftlichen Wettbewerb, am sogenannten KÖFOP[4] teilnehmen zu dürfen.

Die Professoren von verschiedenen Universitäten Ungarns zusammen mit den Doktoranden haben in verschiedenen Forschungsgruppen mehrere Untersuchungen unter anderem zu Themen wie Klimawandel, die Folgen des Klimawandels, sowie Verteidigung der Bevölkerung und Erhöhung der Resilienz der Bevölkerung durchgeführt. (Földi und Hegedűs 2019) Es gab zum Beispiel eine Untersuchung, die nach den Zusammenhängen zwischen dem Schutzsystem und den Aufgaben der Prävention und Rettung suchte. (Hornyacsek, 2017a) Es wurden sowohl die Folgen der Katastrophen untersucht, als auch die Frage, wie das Schutzsystem von Ungarn auf dieses Problem entsprechende Antworten geben kann. Es wurde bewiesen, dass die neuen Herausforderungen ein neues Denken benötigen. Im Weiteren wurde untersucht, welche die wichtigsten Aufgaben der Rettung bei Katastrophenfällen sind, und welche Zusammenhänge zwischen dem Erfolg der Rettung und Resilienz zu beweisen sind. (Hornyacsek, 2017b) Es wurde bestätigt, dass das Schadengebiet der Katastrophen höchst zusammengesetzt war, und es gab einige Erscheinungen, die in allen Katastrophenfällen vorkommen. Für diese kann man also vorzeitig eine Rettungsprotokolle aufstellen, und die Verwirklichung der Aufgaben rechtzeitig üben lassen. Es kam noch heraus, dass um die Schaden zu mindern, muss man bei allen Katastrophenarten bestimmte technische Aufgaben ausführen, die spezielle Fachkenntnisse von den Rettungsleuten verlangt. Die Zeit ist da, dass man diese Kenntnisse in der Ausbildung markanter einbaut. Es wurden auch die typischen Katastrophenfälle in Ungarn in einer weiteren Studie analysiert und die unerlässlichen technischen Fachaufgaben bestimmt, die durch die Rettungskräfte gelöst werden müssen. Die Aufgaben wurden Aufgrund ihrer Eigenschaften in verschiedenen Gruppen eingeteilt, darüber hinaus wurden die Voraussetzungen und die Methode der Verwirklichung (mit der Methode der Logik und Analogie) bestimmt. (Hornyacsek, 2018)

Aus den Forschungen kam es noch heraus, dass die Probleme ohne die Hilfe und Selbsthilfe der Bevölkerung nicht gelöst werden können. Letztes Jahr gab es eine weitere Untersuchung,

[4] Operativ Programm für die Entwicklung der öffentlichen Verwaltung und Dienstleistungen (KÖFOP), NKE, Ungarn

wo man die Steigerung der Widerstandsfähigkeit der Bevölkerung gegen die Folgen extremen Wetters untersuchte. Die Ergebnisse zeigen, dass es immer wichtiger ist zu verstehen, dass man die Wiederstandfähigkeit der Bürger und der Gemeinschaften ausbauen muss, um sie dann an die Herausforderungen anpassen zu lassen und zu erhöhen, und zwar so, dass die Lage nach den Katastrophen qualitativ und quantitativ besser sein wird. Heutzutage strebt man nach der Resilienz gegen die Folgen der Gefahren. Früher verstand man unter dem Begriff „Resilienz" psychische Widerstandskraft, die Fähigkeit mit Schwierigkeiten und Rückschlägen gut umgehen zu können. Der Begriff und der Gedanke haben aber einen breiteren Sinn erhalten, heutzutage versteht man darunter eine Widerstandskraft, Fähigkeit, mit Schwierigkeiten und Rückschlägen gut umgehen zu können, und dadurch, im Sinne der Nachhaltigkeit, stärker und besser sein können.

Empirische Forschung zum Thema „die Steigerung der Widerstandsfähigkeit der Bevölkerung gegen die Folgen des extremen Wetters".

Es gab eine Forschung zum Thema Klimawandel. Zuerst wurden die wissenschaftlichen Probleme bestimmt:

- Die Anzahl der Gefahren, Katastrophen und extremen Ereignisse erhöhte sich.
- Die Folgen sind extremer und die Schäden höher geworden.
- Die Vulnerabilität der Bevölkerung hat sich erhöht, ein Selbstrettungskonzept ist nicht vorhanden.

Danach wurden die Fragen der Untersuchung aufgestellt:

- Welchen Gefahren sind wir ausgesetzt, was sind die Tendenzen der Zukunft?
- Gibt es einen Zusammenhang zwischen Landstruktur und den Folgen der Gefahren?
- Welche Folgen hat das extreme Wetter? Was bedeutet ein Stomausfall?
- Wie ist die Bevölkerung darauf vorbereitet? Wie ist die Rezilienz der Bürger?
- Wie kann man die Resilienz der Bevölkerung erhöhen?

Die Module der Forschung waren die Folgenden:

Im ersten Modul wurden die Gefahren, die auf unsere Sicherheit auswirken bestimmt, dann die Tendenzen der Katastrophen untersucht. Danach wurde der Begriff Klimawandel erfasst und

seine voraussichtlichen Folgen in Ungarn bestimmt. Im weiteren wurde die Vulnerabilität/Verwundbarkeit der Bewölkerung in Ungarn analysiert.

Im zweiten Modul wurde eine empirische Untersuchung über den dauerhaften Stromausfällen gemacht (durch Blackout-Fragebogen). In diesem Artikel werden die Ergebnisse der ersten Module ganz kurz beschrieben, aber die Ergebnisse der Antworten der Fragebogen werden ausführlicher vorgestellt.

Gefahren, Tendenzen, Folgen, Zusammenhänge

Es wurden die verschiedenen Statistiken der Katastrophen, wie Weltreporte, Risikoanalysen und die Vorhersagen der Rettungsorganisationen, sowie die staatliche Einschätzung der Risiken durchgeschaut. Es kam heraus, dass die häufigsten Katastrophenarten, die in der Zukunft in Ungarn unser Leben gefährden können, sind die folgenden:

- Extreme Hitze, Dürre, Wald- und Gebüschbrand,
- Dauerhafte, extreme Kälte, Eis, Schnee,
- Sintflutartiger Regen, Starkniederschläge,
- Sturmflute, Erdrutsche, Hangrutsche, Erdbeben,
- Überflutung, erhöhter Grundwasserspiegel
- Unfälle bei der Herstellung, Lagerung und Lieferung von gefährlichen Stoffen, die der Umwelt beschädigen.

Berichte, Protokolle von Rettungsfällen, Prognosen wurden untersucht und verglichen, und daraus wurde klar, dass:

- die Bevölkerungsdichte, Einwohnerzahl, Gemeindestruktur, geologische Lage starke Auswirkungen auf die Folgen des extremen Wetters haben.
- Der Zusammenhang zwischen Verteidigung der Bevölkerung, Landstruktur und die Folgen des außergewöhnlichen Wetters sind gut nachzuweisen.
- Die Landstuktur bei den Gefahrenschutz-Konzepten von Gemeinden, Städten ist nicht immer berücksichtigt.

Es wurden auch die Tendenzen vorhergesagt:

- Die Anzahl der Katastrophen wird sich in Ungarn in den nächsten Jahren nicht markant erhöhen, aber die Schäden werden grösser und das Schadengebiet komplexer und komplizierter.
- Die Schäden und die Verwundbarkeit der Bevölkerung wird grösser.
- Da das Schutzsystem sich auf der Arbeit von vielen Schutzorganisationen und der öffentlichen Verwaltung beruht, ein Paradigmenwechsel ist in der Zusammenarbeit notwendig.

Es gibt 8 Merkmale, die bei allen Katastrophenarten vorkommen können:

- Mangel an Informationen und Fehlen von lebenswichtigen Gütern,
- chaotische Lage, Mangel an Vertrauen,
- Lebensgefahr, viele Verletzte, Opfer,
- Kettenreaktion, sekundäre Schäden,
- die Stadtwerke sind beschädigt,
- die öffentliche Sicherheit verschlechtert sich,
- die Kapazität der Rettungskräfte ist schwer zu erhöhen.

„Welche Folgen hat ein durch Extremwetter verursachte Stromausfall auf die Bevölkerung“ (Fragebogen)[5]

Da ein Stromausfall bei allen Katastrophen, die von dem extremen Wetter verursacht worden sind, vorkommt, taucht die Frage auf: Was passiert, wenn wegen des extremen Wetters ein langdauernder Stromausfall entsteht? Wie ist die Vulnerabilität/Verwundbarkeit der Bewölkerung? Um eine Antwort zu bekommen, wurde eine Untersuchung über die Folgen mit einem Fragebogen durchgeführt.

[5] Forscher: Júlia Hornyacsek, Das Werk wurde im Rahmen des Prioritätsprogramms mit Identitätsnummer KÖFOP-2.1.2-VEKOP-15-2016-00001 mit dem Titel „Protection of the population against the impacts of power outage caused by extreme weather” in: Földi László-Hegedűs Hajnalka (szerk.): Effects of global climate change and improvement of adaptation especially in the public service area. Dialóg Campus Kiadó, Budapest) in der *Ludovika Forschungswerkstatt* im Auftrag von Nationale Universität für Öffentlichen Dienst fertiggestellt. Copyright: NKE, Ausgabe ist im Prozess.

Abbildung 1. (Hornyacsek)

Ein Stromausfall bedeutet großes Problem für die Gesellschaft. Es gab am 13. Juni 1977 in New York einen langdauernden Stromausfall. Die Bilanz war erschreckend: rund 1600 zerstörte Geschäfte, mehr als 1000 Feuer und knapp 3700 Verhaftungen. Die Behörden schätzten die Schäden auf 300 Millionen Dollar. Ganze Stadtviertel wurden zerstört, einige (Bushwick in Brooklyn) erholten sich jahrzehntelang nicht von dieser „Nacht des Terrors."[6]

Am 02. August 2012 gab es in Indien eine schwere Situation. 600 Millionen Menschen waren ohne Strom. Hunderte Züge blieben stehen. In Neu-Delhi wurde der Betrieb der Metro unterbrochen, Züge wurden evakuiert. Krankenhäuser, Geschäfte und Büros mussten Notfallgeneratoren anstellen."[7]

Wie wirkt ein Stromausfall auf die Bevölkerung in Ungarn? Die Forschung hat die Antworten auf die Kernfragen gesucht:

1. Wie ist Stromversorgung in Ungarn?
2. Was bedeutet ein Stromausfall und was sind seine Auswirkungen?
3. Wie kann die Bevölkerung ihn überleben?
4. Erhöhung der Rezilienz gegen die Folgen des Stromausfalls.

Hypothesen:

- Die Stromversorgung in Ungarn ist nicht genügend.
- Der Auslöser des Stromausfalls ist der Mangel an Strom.
- Ein Stromausfall wirkt schwerwiegend auf das Leben der Bevölkerung.

[6] *Blackout von 1997 in New York.*
[7] *Gigantischer Stromausfall in Indien.*

- Die Gemeinde hilft den Bürgern die Probleme zu lösen.
- Bei einem dauerhaften Stromausfall herrscht Chaos. Die Bevölkerung hat wenig Reserven an Lebensmittel, Geld, Medikamente usw., die Hilfe kommt oft zu spät oder nie an.
- Die Verantwortung für die Hilfe tragen die Gemeinden.

Die Lage der Stromversorgung wurde untersucht und kam heraus, dass die Stromversorgung ist genügend. Der Stromverbrauch von Ungarn verteilt sich seine Herkunft betreffend folgendermaßen:

- 71,38% stammt aus ungarischen Kraftwerken
- 28,62% aus Import.

2016 ist die *inländische Stromherstellung*, verglichen mit dem Vorjahr, um 4,79% gewachsen. *Die Produktion* der Großkraftwerken erhöhte sich um 3,92%, der Kleinkraftwerken um 9,99%. *Der Verbrauch* hat sich 2016 um 1,08% erhöht. Import ist um 7,12% gesunken. Im Netzwerk kommen aber Leitungsstörungen und Kurzschlüsse oft vor.

Die Fragebögen und die Befragten[8]

- 21 Fragen: offene und geschlossene Fragen,
- Vorgabe von Antwortmöglichkeiten mit Multiple- oder Single-Choice, Vorgabe einer Skala oder der/die Befragte formuliert selbst einen kurzen freien Text

Befragten:

Es wurden 250 Personen befragt. 248 Personen antworteten auf die Fragen.

- 38,7% weiblich (96)
- 61,3% männlich (152)

Altersstruktur:

- 4,4% unter 20 Jahre (11)
- 61.7% zwischen 21-40 Jahre (153)
- 25% zwischen 41-60 Jahre (62)
- 8,9% über 60 Jahre (22)

Fragen:

[8] Júlia Hornyacsek: Protection of the population against the impacts of power outage caused by extreme weather. in: Földi László-Hegedűs Hajnalka (szerk.): Effects of global climate change and improvement of adaptation especially in the public service area. Dialóg Campus Kiadó, Budapest, Magyarország.

Die wichtigsten Fragen	Die Antwort der Mehrheit
Haben Sie bereits einen dauerhaften Stromausfall erlebt?	78% erlebten bereits einen länger andauernden Stromausfall.
Was war der Grund?	Ursache: Stromkabel und Masten waren schwach und veraltet.
Warum dauerte die Wiederherstellung der Stromversorgung so lange?	Es gab wenig Kapazität beim Stromversorger um zu reparieren.
Was passierte in der Familie?	Es herrschte Chaos.
Woher haben Sie relevante Informationen erhalten?	Niergendwoher.
Wussten Sie, wie lange es dauern wird?	Nein.
Welche Arten von Problemen haben Sie erlebt?	10 verschiedene Probleme.
Was war das Schlimmste für Sie in der Situation?	Verdorbene Lebensmittel, kein Internet, kein Telefon, keine Informationen

Tabelle 1 (Hornyacsek)

Warum dauerte die Wiederherstellung der Stromversorgung so lange?

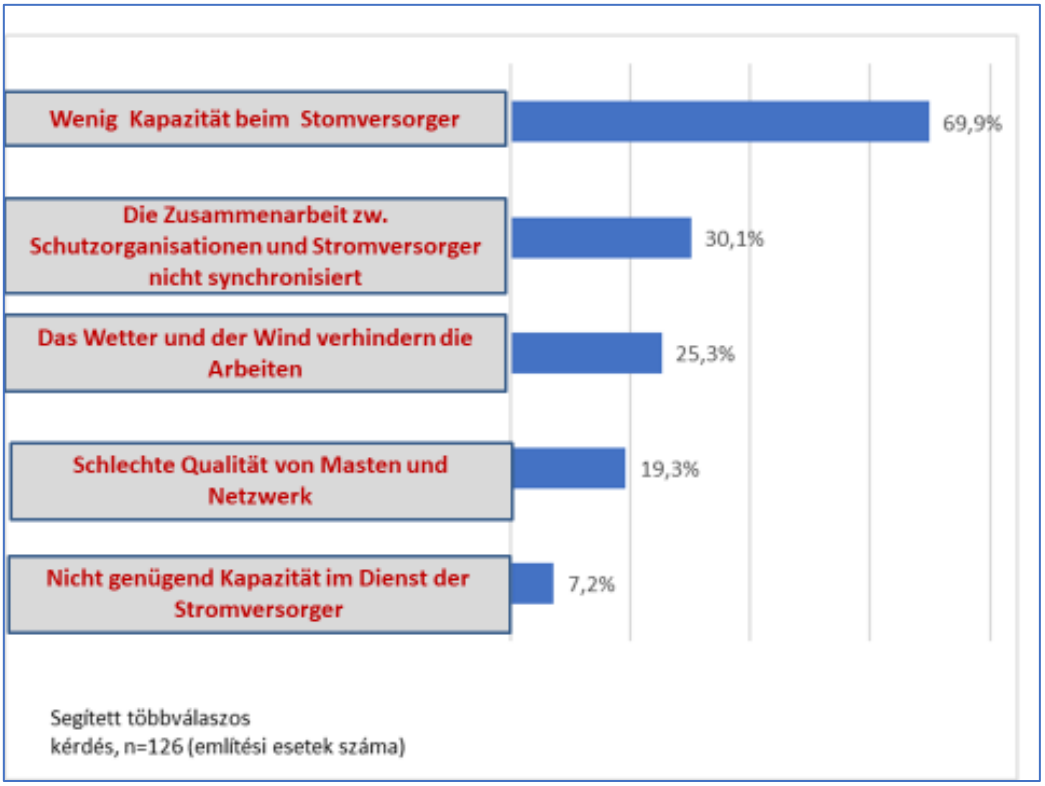


Abbildung 2 (Hornyacsek Júlia)[9]

Es kam heraus, dass der Auslöser des Stromausfalls sind die nachfolgenden:

[9] Quelle der Abbildungen 2-3-4: Júlia Hornyacsek: Protection of the population against the impacts of power outage caused by extreme weather. in: Földi László-Hegedűs Hajnalka (szerk.): Effects of global climate change and improvement of adaptation especially in the public service area. Dialóg Campus Kiadó, Budapest.

- Zusammenbruch vom Stromnetz,
- umgefallene Leitungsmasten.

Den Stromversorgern stehen wenig Kapazität zur Verfügung, um Reparaturen durchzuführen, Das Gesetz bestimmt ihre Pflichten nicht ausführlich.

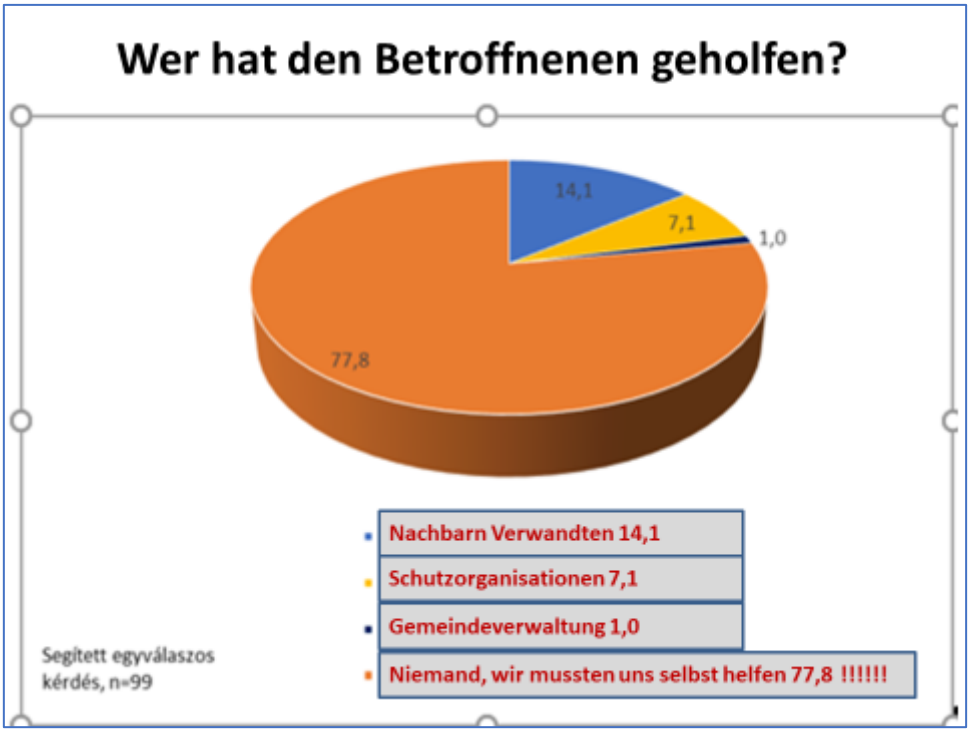


Abbildung 3 (Hornyacsek)

Die zweite Fragebogengruppe wollte nachforschen woher bekamen die Burger Hilfe, und wie ist die Selbsthilfe sowie Selbstsorge des Bürgers, ob es einen Stromquellenersatz gab? Waren Lebensmittelreserven und notwendige Medikamente vorhanden? Gab es die notwendigen Informationen? Möchten die Bürger mehr über das Thema wissen? Möchten sie an einem Vorbereitungskurs teilnehmen?

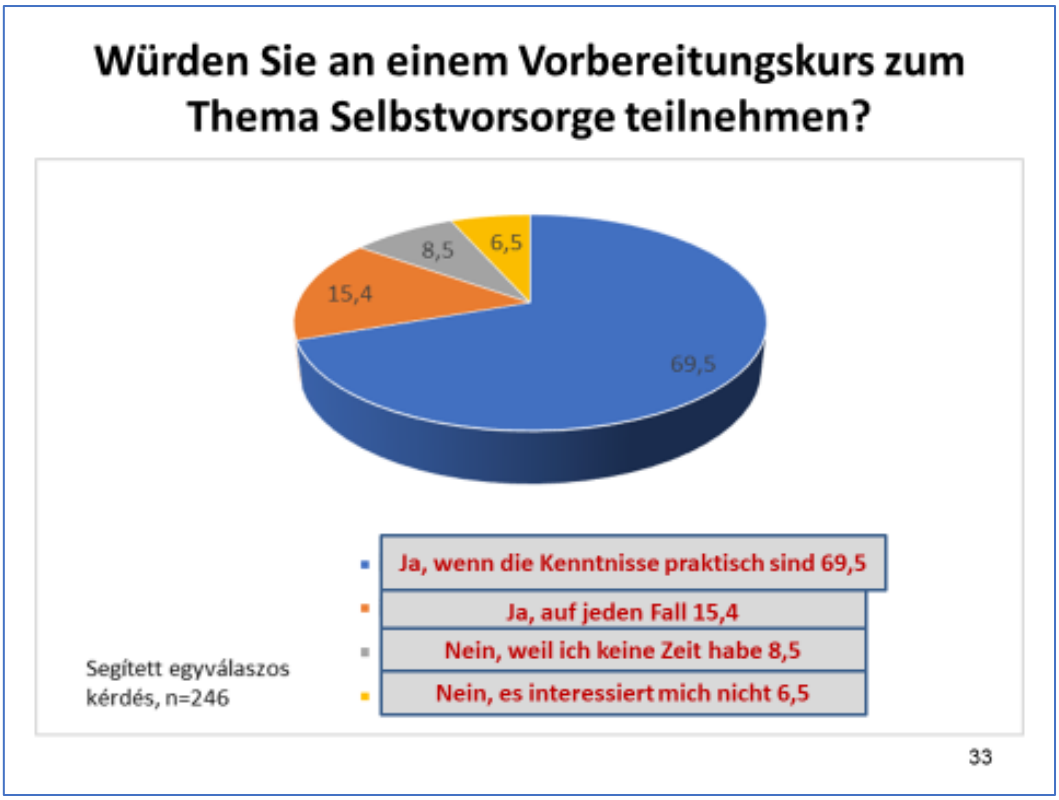


Abbildung 4 (Hornyacsek)

Hypothesen	**Antworten**	**Bemerkungen**
Die Stromversorgung ist nicht genügend.	Nicht war.	Ungarn hat genug Strom, Mangel gibt es nicht.
Der Auslöser ist der Mangel an Strom.	Nicht war.	Als Auslöser gelten die veralteten Stromnetze, Säulen
Ein Stromausfall wirkt schwerwiegend auf das Leben der Bevölkerung.	Es ist bewiesen.	Die Bevölkerung hat wenig Reserven von Lebensmitteln und Medikamenten, keine Ersatzenergiequelle.
Die Gemeinde hilft die Probleme zu lösen.	Nicht war.	Die Verantwortung trugen die Gemeinden, die Bürger mussten aber alle Probleme allein lösen.

Tabelle 2 (Hornyacsek)

Wie könnte das Problem bewältigt werden? Die Lösungsvorschläge der Befragten:

1. Lösung mithilfe von Technologien und Ingenieurwissenschaften (23%).
2. Lösung durch Vorsorge und Informationsversorgung (7%).
3. Lösung durch Motivation für Selbstvorsorge (26%).
4. Lösung durch erweiterte Teilnahme der Stromversorger (12%) und ausgedehnte Mitwirkung der Schutzorganisationen in der Vorsorge und im Informationsfluss (17%).
5. Keine Idee (5%). (Hornyacsek, n/a)

Die Untersuchung zeigte, dass die Bevölkerung ohne Strom sehr ausgeliefert ist, die Gemeinden und die Familien haben keine Ersatzenergie, die Selbstvorsorge ist nicht genügend, die Hilfe kommt zu spät, oder nie an. Die Gemeinden, die Rettungskräfte haben keine Kapazität die einzelnen Probleme zu lösen. Die Stromversorger sind nicht um Hilfe und schnellere Reaktion „gezwungen".

Vorschläge im Bereich „Rettungskräfte verstärken"

- Verbesserung des Ansehens vom ehrenamtlichen Engagement,
- Erhöhung der Kapazität von Einsatzkräften,
- Involvierung und Vorbereitung der Berufs- und freiwillige Rettungskräfte,
- Dialog, gemeinsame Planung und Zusammenarbeit der Kräfte,
- Vorbereitung der Schutzverwaltung,
- Verbesserung vom Informationsfluss,
- Regulierung der Strohmversorger,
- Motivierung der Bevölkerung an den Vorbereitungskursen teilzunehmen.

Resilienz ist eine positive gesellschaftliche Fähigkeit, um Krisen und Katastrophen zu bewältigen. Resilienz erfordert aber auch, und zwar konkret und vor Ort, Einsatzkräfte, Ressourcen, Pläne und Kommunikationsstrukturen.[10]

Vorschläge im Bereich „schnell Reagieren und das Problem erfolgreich beheben"

Wir müssen einen erfolgreichen, wirksamen Rettungsprozess durchführen:

1. Die Rettungsphasen bestimmen:

[10] Rezilienz der Bevölkerung. https://crisis-prevention.de/katastrophenschutz/resilienz-der-bevoelkerung-bei-krisen-katastrophen.html

a. zielorientiertes Erkunden,
b. planen,
c. Entscheidungen treffen, schnell handeln.

2. Die Rettung optimal organisieren, die Zusammenarbeit professionell koordinieren:
   a. Lebensgefahr beheben
   b. Schaden beheben
   c. Die Lebensbedingungen sichern.

Vorschläge im Bereich „Aufklärung, Selbstvorsorge“

Wir müssen die Bevölkerung auf die möglichen Gefahren vorbereiten:

1. Die Landstuktur muss bei den Gefahrenschutz-Konzepten von Gemeinden, Städten berücksichtigt werden.
2. Gefahrenvorsorge (Gemeinde, Familie) erhöhen.
3. Ehrenamtliche Arbeit schätzen, die Voraussetzungen der Arbeit sichern.
4. Aufklärungskurse organisieren.
5. Rechtzeitig und ausführlich informieren.

Da Katastrophen und Bedrohungen auf das Leben der Bevölkerung signifikante Auswirkungen haben, ist es entscheidend für die Zukunft unserer Gesellschaft die Resilienz der Bevölkerung zu steigern. Nur so können wir Menschenleben effizient und effektiv schützen.

Literatur

Blackout von 1997 in New York. https://www.hna.de/welt/blackout-von-1977-in-new-york-dunkelste-nacht-in-einer-millionenstadt-zr-8478775.html

FÖLDI, László, HEGEDŰS, Hajnalka (szerk.) Adaptációs lehetőségek az éghajlatváltozás következményeihez a közszolgálat területén. Magyarország, Magyarrország, Budapest, Nemzeti Közszolgálati Egyetem, (2019)

Gigantischer Stromausfall in Indien. https://www.sueddeutsche.de/wirtschaft/gigantischer-stromausfall-in-indien-die-dunkle-seite-der-macht-1.1429292

HORNYACSEK Júlia: A katasztrófák elleni védekezés műszaki szakfeladatainak rendszere, a végrehajtás követelményei, módszerei, és eszközei. *Műszaki Katonai Közlöny.* XXVIII., 1. pp. 103-139 (2018)

HORNYACSEK Júlia (2017b): A mentési időszak feladatai és szerepe egy közösség katasztrófákkal szembeni rezilienciájának növelésében. *Hadmérnök,* 12 pp. 25-48 (2017)

HORNYACSEK Júlia (2017 a): The relationship between the tasks aiming at the prevention of extraordinary incidents, the preparation for the mitigation of their consequences and the system of protection. *AARMS* 16: 1 pp. 41-65 (2017)

Júlia HORNYACSEK: *Protection of the population against the impacts of power outage caused by extreme weather*. in: FÖLDI László-HEGEDŰS Hajnalka (szerk.): *Effects of global climate change and improvement of adaptation especially in the public service area*. Dialóg Campus Kiadó, Budapest, Magyarország (Ausgabe ist im Prozess)

Rezilienz der Bevölkerung. https://crisis-prevention.de/katastrophenschutz/resilienz-der-bevoelkerung-bei-krisen-katastrophen.html

Die Öffentlichkeitstätigkeit des ungarischen Katastrophenschutzes

Ágnes Túriné Barta
PhD Student
Doctoral School of Military Engineering
National University of Public Service, Budapest

Tamás Hábermayer
PhD Student
Doctoral School of Military Engineering
National University of Public Service, Budapest

Abstract

Die ungarische Berufskatastrophenschutzorganisation verwendet eine breite Skala von Mittel im Laufe ihrer Öffentlichkeitstätigkeit. Die Autoren präsentieren und untersuchen, beziehungsweise analysieren einzelweise diese Mittel. Im letzten Schritt werden Schlussfolgerungen auf die Tätigkeit gezogen und Anträge eingebracht. Um über die aktuellen Fragen des Themenbereiches sprechen zu können, wird die Struktur des ungarischen Berufskatastrophenschutzsystems ebenfalls dargelegt.

Einleitung

Die Grundlagen der jetztzeitigen Struktur des ungarischen Berufskatastrophenschutzes entstanden am ersten Tag des Jahres 2012. Seitdem gibt es ein einheitlich organisiertes Katastrophenschutzsystem in Ungarn. Damals wurden die drei sogenannten Grundpfeiler ins Leben gerufen, die sind Folgende:

- Feuerwehr, Feuerschutz,
- Zivilschutz und
- Industriesicherheit.

Im Jahr 2012 wurde die Berufsfeuerwehr unter staatliche Führung eingegliedert, das Zivilschutz erneuert und die Arbeit in der Industriesicherheit auf neuen Grundlagen gestellt.

In den letzten sieben Jahren bekam die Organisation neue Aufgaben:

- Wasserbehörde, Gewässerschutz,
- Verwaltung für Schornsteinfegern,

- Müllabfuhrversorgung im Notfall und
- Stechmückenbekämpfung.

Illustration: Das Logo der Organisation der ungarischen Berufskatastrophenschutz

Die Nationale Generaldirektion für Katastrophenschutz verrichtet ihre Arbeit unter die Führung des Ministeriums für Inneres. In den neunzehn Komitaten des Landes und der Hauptstadt Budapest betätigt sich je eine Katastrophenschutzdirektion. Dazu gehören die fünfundsechzig Katastrophenschutzausstellen, die mehr als hundert Berufsfeuerwehr-Kommandos, und die mehr als vierzig Berufsfeuerwehren mit einer Gruppe. Es gibt weiterhin siebensechzig Betriebsfeuerwehren, mehr als sechshundert freiwillige Feuerwehrverbände, mehr als tausenddreihundert freiwillige Rettungsorganisationen, und sechzig Gemeindefeuerwehren. Unter die Berufsfeuerwehr-Kommandos arbeiten mehr als hundertachtzig Katastrophenschutzbeauftragte.

Laut des Gesetzes über Katastrophenschutz und die Änderung bestimmter damit zusammenhängender Gesetze „ist der Schutz vor Katastrophen eine nationale Angelegenheit“ in Ungarn. (CXXVIII. Gesetz über Katastrophenschutz und die Änderung bestimmter damit zusammenhängender Gesetze, 2011., Kapitel 1., 1 § (1))

Dasselbe Gesetz schreibt ebenfalls vor: „die Teilnehmer im Katastrophenschutz sichern die für die Informierung der Bürger nützliche Informationen über diejenigen Effekte, die das Leben, die Unverletztheit, die materiellen Güter und die Umwelt bedrohen.“ An der Nationalen Generaldirektion für Katastrophenschutz ist die Hauptabteilung für Kommunikation tätig, und an der Katastrophenschutzdirektionen sind die SprecherInnen wirksam für die Öffentlichkeitstätigkeit der Organisation.

Die Organisation führt nicht nur Notfallkommunikation, sondern sie teilt Informationen täglich. Die Notfallkommunikation ist der Bericht, den man vor und nach dem Notfall, beziehungsweise während der Notlage veröffentlicht. (Barta, 2017.)

Die Öffentlichkeitstätigkeit der Berufskatastrophenschutzorganisation

Die Öffentlichkeitstätigkeit einer Organisation steht im engen Zusammenhang mit der Kommunikation.

„Allgemein betrachtet ist der Begriff der Kommunikation eine interdisziplinäre und vielfaltig verwendete Kategorie. Man spricht von „Kommunikation“ in den verschiedensten Wissenschaften, wie zum Beispiel der Philosophie, Soziologie, Informationswissenschaft oder Psychologie. Der Begriff ist aufgrund seiner vielfältigen Verwendungsweise durch zahlreiche unterschiedliche Definitionen geprägt“ (Claas, 2005, p 8).

Der Begriff *Kommunikation* hat lateinischen Ursprung, und zwar vom Wort *communicatio, communicare*. Die Grundlage des Wortes bildet *communico*, mit der Bedeutung *teilen* (Schein, 2008). In der Rhetorik verwendet man diesen Ausdruck für Teilung der Gedanken. Die Ausdrücke *Öffentlichkeitstätigkeit, Öffentlichkeitsarbeit* oder auch *Public Relations* (kurz: PR) kann man als die Steuerung der Kommunikation einer Organisation verstehen.

Die ungarische Berufskatastrophenschutzorganisation entwickelt seit einer Reihe von Jahren ihre Öffentlichkeitstätigkeit. Die Organisation beginnt immer neue Mittel zu verwenden – die Trends folgend. Vorher gab die Organisation eine gedruckte Monatsschrift aus, hatte eine Internetseite, beziehungsweise ein Landessprecher informierte die Bevölkerung über die Informationen, vor allem über die Unfälle und Brandfälle. Zurzeit verwendet die Organisation eine viel breitere Skala von Mittel, um die Informationen schnell, authentisch und präzis den Menschen übermitteln zu können.

Diese Mittel von Heute sind Folgende:

- ein Instagram-Profil,
- ein Facebook-Profil,
- eine Applikation,
- siebenundzwanzig Internetseiten,
- dreiundzwanzig SprecherInnen und
- ein Mediaserver.

Die Autoren stellen die oben genannten Mittel in den folgenden Kapiteln einzelweise vor.

Die Organisation hält im Laufe ihrer Kommunikation die Regeln der Medienethik immer vor Auge. „Eine Medienethik ist in erster Linie eine deskriptive Form der Ethik. Sie beschreibt das Verhalten der Menschen unter medialen Bedingungen. […] Sie ist also weniger normenbegründend als vielmehr Verantwortlichkeit sensibilisierend." (Wiegerling, 1998. p 1)

Das Instagram-Profil

Instagram ist ein Mittel für die visuelle Kommunikation: wenige Wörter, eindrucksvolle Videos und Bilder. „Unter visueller Kommunikation versteht man Kommunikation, die durch Videos, Bilder und Bildwelten betreiben wird. Nach dem Motto „Ein Bild sagt mehr als 1000 Worte", rückt Text in dieser Form der Kommunikation in den Hintergrund. „Videos etablieren sich immer mehr in der Welt des Internet, und Fotos können wunderbar Geschichten erzählen." Bilder lassen dem Betrachter mehr Spielraum für eigene Interpretationen und Gedankenspiele und regen somit die Fantasie an" (Kröner, 2014, p. 2).

Das Instagram-Profil ist das neuste Kommunikationsmittel der Organisation: hier erschien das erste Bild am 4. Mai 2019. Dieser Tag ist der internationale Tag der Feuerwehrleute, der Feuerwehr. Diese Photographie, als erstes Update bekam 43 Likes.[11] Das neuste Update von 25. Oktober 2019 hat 439 Likes, an denselben Tag verfügt das Profil über 3477 Folger und beinahe 270 Updates. Die Posts sind mit ungarischen und englischen Hashtags versehen, so kann man mehreren Leuten erreichen, beziehungsweise sind die Themen schneller und leichter zu folgen.

Das Facebook-Profil

Gleich wie das Instagram, das Facebook ist ebenfalls ein Mittel für die visuelle Kommunikation.

„Das Aufkommen digitaler Kommunikationsmittel in den früher 2000er Jahren und die Etablierung und Diversifikation Sozialer Netzwerke und neuer Medienformen in den 2010er sind dabei wohl einige der umfassendsten, in technologischer Hinsicht wohl tatsächlich die umfassendsten Veränderungsprozesse, denen sich Regierungskommunikation und staatliche Öffentlichkeitsarbeit seit ihrer Etablierung ausgesetzt sahen. Alles ist im Wandel: Plattformen, Nutzungsgewohnheiten, Rezipientenansprüche und Zeithorizonte. Regierungskommunikation und staatliche Öffentlichkeitsarbeit müssen sich verändern, um relevant zu bleiben und um

[11] Diese Angabe stammt von 25. 10. 2019.

ihren verfassungsgemäßen Auftrag weiterhin effektiv erfüllen zu können.“ (Raup, J., Kocks, J. N., Murphy, K., 2018, p 1).

Schritt haltend mit dem oben erwähnten Wandel fing die Organisation vor 6 Jahren an, sozialen Netzwerk zu applizieren: vom Jahr 2013 verwendet die Katastrophenschutzorganisation das Facebook für ihre Öffentlichkeitstätigkeit. Die Seite ermöglicht Interaktionen und Dialoge, so wurde die Kommunikation der Organisation nicht mehr einseitig.

Die Seite verfügt über beinahe 55 Tausend 600 Likes und mehr als 60 Tausend Follower, aber es kann vorkommen, dass die einzelnen Nachrichten noch mehr Leuten erreichen, weil die Beiträge von User noch weiter geteilt werden.[12] Im Allgemeinen postet die Organisation 1 bis 3 Beiträge pro Tag.

Illustration: Das offizielle Facebook-Profil der Organisation

Die Seite – gleich wie das Instagram-Profil – wird von der Hauptabteilung für Kommunikation editiert, die Themen können aber von den KollegInnen aus dem ganzen Ungarn stammen. Die meisten, hier und im Instagram geteilte, postete News schlagen einen anderen Ton an, als die an der Homepage oder Applikation. Die Themen, die Inhalte sind nicht immer, aber in den meisten Fällen leichter, berichten zum Beispiel über Feuerwehr-Hochzeiten oder Tierrettungen. Die Organisation teilt auf diesem Social Web Plattform ebenfalls u.a. die meteorologischen Alarme oder einige Artikel aus dem Online Magazin „Katasztrófavédelem“ (deutsch: Katastrophenschutz).

[12] Diese Angabe stammt von 25. 10. 2019.

Die Applikation

„Handys wurden von den 1980er Jahren zum beliebtesten Kommunikationsmittel. In Ungarn sind sie vom Ende des Jahres 1990 erreichbar. Vorher schätzte man, dass die mobile Penetration bis zum Jahr 2000 2,6 Prozent erreicht, wurde aber diese Zahl 26 Prozent.“ (Balog, 2015. p 181)

Die Applikation VÉSZ – Veszélyhelyzeti Értesítési Szolgáltatás (deutsch: Dienstleistung für Notfallbenachrichtigung) wurde ebenfalls im Jahr 2013 in Gang gesetzt. Man kann die Applikation kostenfrei an Handys und Tablette herunterladen.

Mit Hilfe dieses online Systems bietet der Katastrophenschutz dem Benutzer solche Informationen, die ihnen bei ihrer täglichen Selbstfürsorge helfen können. Das System berichtet über Unfälle, Brandfälle, meteorologische Alarme. In den meisten Nachrichten geht es um technische Hilfeleistung.

Es gibt drei Stufen der Nachrichten:

- informative Nachrichten,
- Warnungsnachrichten und
- Alarme.

Die Nutzer können Folgende in der Applikation für sich selbst einstellen:

- sogenannte „stille Stunden“, wenn man keine Nachrichten bekommen möchte,
- Gebietseinstellungen und
- Nachrichtstufeneinstellungen.

Die Internetseiten

Die Katastrophenschutzorganisation verfügt über siebenundzwanzig Internetseiten. Die gehören zu:

- der Nationalen Generaldirektion für Katastrophenschutz (1),
- den Katastrophenschutzdirektionen in den Komitaten und der Hauptstadt Budapest (20),
- dem wirtschaftlichen Zentrum (1)
- dem Bildungszentrum (1),
- dem Forschungsinstitut (1),
- dem Museum (1) und
- dem Orchester (1).

Außerdem editiert die Generaldirektion eine Internetseite für die freiwilligen Feuerwehrleute. Die vorher ausgedruckte Monatsschrift wird vom Frühling 2015 ebenfalls auf der Homepage, ausschließlich online publiziert. Dank dieser Methode wurden die Belesenheit messbar und das Leseerlebnis bilderreicher. Nach der Meinung der Autoren ist die Tatsache ebenfalls von großer Bedeutung, dass diese neue Erscheinungsmethode umweltfreundlicher ist.

Die Organisation teilt auf dieser online Plattform Nachrichten und weitere Informationen über den Katastrophenschutz. Die meteorologischen Alarme, die Sturmwarnung, die Ereignisse, wo die Einheiten des Katastrophenschutzes dabei sind, beziehungsweise die Orte, wo es Feuerzündungsverbot eingeführt wurde, erscheinen auf Karten.

Die Pressemitteilungen und die Kontakte zu den SprecherInnen sind ebenfalls auf der Homepage zu finden.

Die SprecherInnen

Seit beinahe 10 Jahren stellt die Organisation nicht nur einen Pressesprecher an. Im Jahr 2019 arbeiten an der Generaldirektion zwei Sprecher, außerdem je Komitat ein/e SprecherIn, beziehungsweise in der Hauptstadt zwei Kollegen. Die PressesprecherInnen sollen immer glaubwürdig kommunizieren, sie vertreten die Organisation in der Öffentlichkeit. Sie sollen im Besitz von weitverbreiteten Kenntnissen über die Organisation sein. Zahlreiche Literatur beschäftigt sich mit der Frage, wie ist ein gute/r PressespracherIn. Die Ergebnisse dieser Forschung bildet nicht das Thema dieser Schrift.

Der Mediaserver

Der Mediaserver, der Server für die PressearbeiterInnen ist vom 4. Dezember 2012 erreichbar. Auf das online System wurden Bilder und Videos von den SprecherInnen aufgeladen.

Die PressemitarbeiterInnen können diese Inhalte nach Registration unterladen. Die visuellen Inhalte sind immer mit Texte und Schlüsselwörter versehen, so sind sie einfacher zu suchen. Der Server ist ebenfalls von der Homepage erreichbar. Gleich wie bei der Homepage, hier ist es ebenfalls eine RSS-Quelle zu finden, so sind die neusten Inhalte immer zu verfolgen.
Die hier – und auf alle Plattforme der Öffentlichkeitsarbeit der Organisation – zu findende Inhalte werden nach der Regelungen der Bildethik veröffentlicht.

Illustration: Der Mediaserver

Zusammenfassung

„Public Relations (PR) im deutschen Sprachraum synonym als Öffentlichkeitsarbeit bezeichnet – stellt keine eigenständige Wissenschaft dar, sondern ist ein Praxisfeld, das wissenschaftlich erforscht wird. Als Forschungsgegenstand weist Public Relations einen multidisziplinären Charakter auf: Zahlreiche unterschiedliche wissenschaftliche Disziplinen – neben der Kommunikationswissenschaft insbesondere die Betriebswirtschaftslehre, die Soziologie, Psychologie und die Politikwissenschaft – beschäftigen sich mit Public Relations bzw. mit Teilaspekten der PR.“ (Röttger, U., Kobusch, J., Preusse, J., 2018. p 1) Die Autoren untersuchen und präsentieren die Öffentlichkeitsarbeit der ungarischen Katastrophenschutzorganisation in dieser Studie – mit besonderer Rücksicht auf die Mittel, welche die Organisation im Rahmen ihrer PR-Tätigkeit verwendet.

Die Öffentlichkeitsarbeit der Organisation erfuhr eine wesentliche Änderung in den letzten Zeiten.

Man kann feststellen, dass die Organisation die Trends der Welt der Öffentlichkeitsarbeit in Betracht zieht. Nach der Meinung der Autoren ist es zu überlegen, ob die Organisation weitere Entwicklungen in dieser Richtung ins Leben rufen möchte, wie zum Beispiel die Verwendung von Twitter. Mit der Anwendung dieses Mittels könnte der Katastrophenschutz noch mehr Leuten erreichen, beziehungsweise wurde die Echtzeitkommunikation ebenfalls sichert.

Auf der Homepage sind einigen Informationen auf Englisch erreichbar. Es ist ebenfalls zu überlegen, mehr Informationen auf mehreren Plattforme nicht nur auf Ungarisch, sondern auch auf englischer Sprache anzugeben.

Literatur

CXXVIII/2011 Gesetz über Katastrophenschutz und die Änderung bestimmter damit zusammenhängender Gesetze. Retrieved from https://net.jogtar.hu/jogszabaly?docid=a1100128.tv (abgeladen: am 25. Oktober 2019)

Túriné Barta, Á. (2017). Történelmi árvíz hazánkban – a 2013-as dunai árvíz katasztrófavédelmi kommunikációja. Retrieved from http://hadmernok.hu/170k_13_turine.pdf (abgeladen: am 26. Oktober 2019)

Claas, A. S. (2005). Niklas Luhmanns Begriff der Kommunikation. ISBN 978-3-638-84963-0

Schein, S. (2008). Kommunikation – Definition, Ablauf, Arten. ISBN 978-3-640-17203-0

Wiegerling, K. (1998). Medienethik. ISBN 978-3-476-10314-7

Kröner, M. (2014). Visuelle Kommunikation im Social Web durch Pinterest und Instagram. ISBN 978-3-656-63592-5

Raup, J., Kocks, J. N., Murphy, K. (2018). Regierungskommunikation und staatliche Öffentlichkeitsarbeit. ISBN 978-3-658-20589-8

Balog, F. Veszélyhelyzeti Értesítési Szolgáltatás tapasztalatainak elemzése, jövőbeni igényeinek meghatározása. Retrieved from http://hadmernok.hu/153_14_balogf.pdf (abgeladen: am 26. Oktober 2019)

Röttger, U., Kobusch, J., Preusse, J. (2018). Grundlagen der Public Relations. Eine Kommunikationswissenschaftliche Einführung. ISBN 978-3-658-17503-0