CHALLENGES IN CROSS BORDER COOPERATION IN DISASTER RISK REDUCTION AND MANAGEMENT

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ABSTRACT

Present research objective is to address the identified challenges regarding Cross-Border Disaster Risk Reduction and Management by proposing a tested a cooperation framework to monitor and measure the readiness levels of key components of Disaster Management in Cross-Border situations between countries. The geographical focus and case study for the current research are the countries of the Balkan Peninsula plus Georgia, Armenia and Azerbaijan (Region of South Caucasus). The specific framework have been tested for its effectiveness with the collaboration of national civil protection authorities at various EU projects, funded under DG ECHO with the acronyms BALANCE, HOPE, FLOODNORTHALB, (Full Scale Exercises), ALTER, ROSES and SAILOR (Preparedness), and Resilient Borders (focused pilot funded by European Parliament.

The **method** followed consisted of a detailed analysis of the existing research findings and good practices - including a recent (2024) study conducted by EU at all EU borders regarding disasters resilience- followed by repeated and extensive study visits, coupled with raising awareness campaigns, training and table top or/and field exercises, at the borders of countries in Balkans and South Caucasus. Civil Protection Experts were engaged both from national and local/border areas, together with researchers, volunteer organizations and local communities' experienced staff/members.

Keywords: *Disaster* Risk Reduction and Management, Cross Border Cooperation, Resilient Borders. Cross Border Emergencies. Joint Emergency Plans.

1. INTRODUCTION

Despite decades of disaster and emergency management authorities aiming to improve citizens' awareness of natural risks, preparedness levels have been found to be generally low amongst populations around the globe and especially at cross border regions. The building blocks of effective disaster management are risk assessment, mitigation, planning, training and exercises for response, and a good plan for recovery ([1]; [2]; [3]). Natural hazards scholars have been studying community risks and vulnerabilities to disaster ([4]; [5]; [6], [7]; [8]; [9]) to determine the causes, characteristics and consequences of probable future catastrophic events, which may be natural, accidental, or intentional. Addressing disaster risk reduction and management aspects at European level requires not only the consideration of different legal, historical, social and governance frameworks and languages, but also the consideration of strategic, tactical and operational specificities that vary widely between countries. Especially at border areas, the conditions are more challenging and various initiatives and projects have been implemented trying to address them (mainly DG ECHO projects and Interreg bilateral ones).

Respective procedures and practices are well established in many member states within the European Union and are facilitated—among others—by guidelines developed by the European Commission, on assessing risk [10] or risk management capabilities [11]. Activities in managing risk are usually structured around four phases— prevention, preparedness, response, and recovery—with main actors being involved in response activities encompassing first responder organizations such as firefighters or health services.

They ensure the provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

Clarity and conceptualization of the system's goals are critical. To deal with the crucial issue of guaranteeing preparedness and building resilient systems, this work will develop a framework which identifies the essential elements of Cross-Border Emergency Management. The framework for Emergency Readiness Response thus conceptualizes the essential elements to consider in the development of a high quality assurance joint framework for successful cooperation in cross-border emergencies, in line with Sendai Framework 2015 - 2030 and the latest advances in European and International Disaster Risk Reduction and Management.

2. METHOD

Initially, during the pre-mentioned EU financed projects, there was an analysis conducted to identify what are the cross border cooperation challenges to optimise disaster risk reduction and management. In projects such as ALTER, ROSES, SAILIR, FLOODNORTHALB, Resilient Borders, such analysis was a key project activity, while in others (BALANCE, HOPE) the significance of cross border dimension was recognized at early implementation stages.

A comparative analysis took place with the findings of cross border emergencies related studies/research and acknowledged good practices [12]. [13], [14], [15], coupled with extensive study visits at the border areas, organisation of trainings and table top and field exercises. A table top exercise was conducted at the early project stages as diagnostic tool to provide common picture of the situation to all parties, as it was made obvious that national authorities had a completely different view of the cross border situation from the one regional and local authorities experienced. Such diagnosis allowed all parties to align reality with expectations and create common ground for joining work on both sides of the border areas. Raising awareness campaings, trainings, studies, exchange of experts and engagement of researchers, media, local communities and private sector, were among the activities that took place at border regions. At the same times synergies with broader regional initiatives and similar projects had been sought to maximize impact of activities. For example in Western Balkans cooperation with IPA Care PROGRAMME and PPRD East II and III ones in Black Sea and South Caucasus.

At the final stages of the projects, joint table top and /or field exercises had been planned, conducted and evaluated to measure the progress made from the initial -diagnostic- phase and lead to lessons learnt and results that could be capitalized by the bordering countries. Special lessons learnt events took place, and specific follow up activities have been scheduled / arranged to optimise cross border cooperation on disaster risk reduction and management.

3. RESULTS AND DISCUSSION

Until now there is no solid set of recommendations at EU and beyond, regarding optimization of disaster risk reduction and management cooperation framework at border regions. Despite the numerous bilateral - trilateral and multilateral projects already financed by EU and the fact that border regions have gained the last few years the importance they deserve. The set of projects mentioned proposed a specific methodology -tested for various risk and in different cross border areas- that produced a vast amount of data ad concrete outcomes for the relevant authorities exploit and invest on them.

The scheme: Analysis/good practices =. diagnostic table top exercises => implementation of joint studies, training, raising awareness campaigns, cooperation with research community/local communities/ NGOs => testing of work at joint table top/field exercises (with realistic, challenging scenarios) = structured

evaluation => lessons learnt = > action plan, promises quick, focused results and deepening of cross border cooperation on disaster risk reduction and management

Results such as: regular experts meetings/ training and exercises, joint risk assessment and early warning - early action systems, common investments, public private sectors and local communities partnerships are some of the many follow up activities that make the proposed approach reliable and promising.

4. CONCLUSION

Despite the plethora of projects on cross border disaster reduction and management cooperation financed by European Union, there is lack of evidence on their sustainability of results and actual impact on cross border regions' resilience. Informed decision making and elaboration of an effective and efficient joint cross border cooperation framework is missing. The proposed and tested in different projects, risks and borders, approach is promising and has full potential to be used to enhance the research - civil protection cooperation on the field of cross-border disaster management by providing a foundation to improve the readiness levels of bordering countries/regions regarding cross-border disasters, allowing synergies and alignment of various initiatives. By furtherer developing and adopting proposed framework, the solutions space of the challenge how to achieve effective and efficient cross-border emergency management concerning a cross-border disaster would be substantially optimized. Alignment of European policies and initiatives will allow informed planning of cross border interventions, transparent outcomes and results and will secure bordering development initiatives from natural and man made disasters.