

EnSIR- Enhancing social infrastructures resilience to cope with natural disasters: *in theory and practice*

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5. Potential partners to be contacted

TO BE CONFIRMED In Greece

TO BE CONFIRMED – ANCI National Association of Italian Municipalities

TO BE CONFIRMED -- Zanasi & Partners (Italy)

TO BE CONFIRMED -- United Nations disasters risk reduction

TO BE CONFIRMED – National Civil Protection Service (Italy)

TO BE CONFIRMED – on Optimal organizational levels (beyond given administrative boundaries) on disaster resilience

6. Mailing list (24 Jan 2016)

Foreword

This document presents the concept and some hints to elaborate the proposal for an international workshop to be held in Modena, Italy, in 18-19 May 2016. The workshop will give the participants the opportunity to strengthen a joint proposal to be submitted on next H2020 Call in 2016. The present structure defines four work packages and tasks: they could fit as a preliminary structure for the workshop's topics and sessions.

1. Outline of the proposal

When it comes to discussions of infrastructural impact of a natural disaster, the measure typically focused on material infrastructure (such as roads, buildings, water systems, etc) and livelihoods.

Such infrastructures are indeed subject to clear disruptions during and after natural disasters and/or human threats and their recovery is an issue for ensuring the regular socio-economic activities.

Nevertheless, other types of infrastructures affect socio-economic activities and the quality of life of individuals as well: socio-cultural infrastructures, assuring the regular provision of a large set of services, e.g., social services, health services, education. Disruption of the material components of such infrastructures (buildings, devices and machineries) is typically addressed by emergency and recovery interventions.

Beyond those material components, also the disruption of the socio-cultural components of the social infrastructures and their implementations, in terms of information structures and software, can worsen the impact of natural disasters on the daily life of individuals slowing down the path of recovery after a natural disaster. Furthermore, natural disasters also have other long-term effects, such as gentrification and neo-liberal urbanism. On the opposite, a specific focus just on environmental resilience might hide the long-term catastrophe of urban displacement, also as a consequence of natural disasters (e.g. the hurricane Katrina and the race issue in New Orleans: that was a natural disaster that became a social disaster);

Resilience is the ability of a system to cope with external unpredictable perturbations and to better withstand and recover from disasters. Weak resilience within the immaterial components of those infrastructures can impose further socio-economic costs on societies and local communities. Weak resilience within social infrastructures can depend both upon limits in their conception and implementation and upon their non-integration with other areas of public policies. Due to existing interconnections, cascades of effects starting from one sector may result in devastating impact on the functioning of other sectors as well as of the overall society.

Thus, besides physical infrastructures, also immaterial ones can be impacted by natural disasters and form an integral part of community resilience. This causes interconnected mis-services in other sectors. Among different typologies of social

infrastructures, the most relevant for coping with the effects of natural disasters are the following:

- **Health services:** they represent typical public services, which are deeply rooted in the EU social model. The provision of these services (through hospitals, pharmacies...) can be organised at different territorial level, but mostly at regional level. In this sector, are frequent the interactions between public and private actors which are to be taken into account if one wants to design resilient services. A local health system is impacted by a natural disaster, both in physical structures (e.g., hospitals) and in immaterial relationships among service providers. Furthermore, these impacts also apply to partner services and supply chains, which will be damaged by the health sector's inability to deliver care.

CG: Refer also to Adaptation Report for the Healthcare system 2015 www.sduhealth.org.uk/ARP

- **Social services:** their provision couples with the provision of health services. They target elderly people and early-children (the former being a particularly large age class in Western and other developed countries) as well as families in need (e.g., through social and psychological counselling, ...). During natural disasters these services could be ineffective as staff members may be themselves injured or because the regular organization of those services has not an emergency plan. In such cases among others keeping effective contact with the assisted population becomes impossible.
- **Civil protection:** it plays a key role in the very emergency phase. Well structured organisations may reduce costs and time of damage recovery process. They can also organise the provision of emergency services in the most efficient (and effective) way. Furthermore, a critical issue is also represented by the way civil protection retrieve information from and provide information to public administration at both national and local level.
- **Local/regional government** structures represent the institutional framework, whose activities are crucial in order to implement local policies on many domains impacting also on immaterial dimensions of social infrastructures. Our focus in this project is on their internal organization, on the intra-level and inter-level coordination, and on the consequence that organization and coordination have on their effectiveness in dealing with natural disasters. A specific focus is also aimed at assessing importance of multilevel governance, under different national regulations.
- **Institutional communication services:** promoting communication is a key issue for institutional bodies and organizations; this being the easiest way to inform citizens about their activities and receiving feedbacks from them, about the perceived quality of the service. During emergencies, specific communication services take place (e.g. the provision of emergency information through civil protection). In particular an efficient and reciprocal interchange of information among sectors of the Public Administration and between them and citizens can go a long way in reducing the impact of natural disasters on population, well beyond the emergency phase:

it is a crucial component also in the recovery phase aiming at enhancing resilience and then strategically asking for citizens' engagements.

According to their specific features, all these typologies of infrastructures may suffer disruptions after a natural disaster, their ability to support community resilience being impacted in a very different way. EU Countries organize social, health and education services, but they may differ with regard to relative resources committed, governance, degrees of autonomy in the different levels of organization, coordination intra service and inter-services, involvement of private initiatives. From a theoretical perspective, the assessment of the major drivers and determinants of those differences is a preliminary step to enhance social infrastructure resilience. With regard to the organization of social infrastructures, optimal organizational levels represent a key issue. Optimal functional areas could actually replace administrative boundaries in providing social services. Besides the definition of optimal organization level, natural disasters also lead to impressive changes in bureaucratic structures, which typically occur in very short time spans and according to highly unpredictable paths. Learning from these experiences helps increasing the level of resilience of the social infrastructures designed.

Among possible innovations, ICT currently represents the most important one in reshaping and enhancing inter-municipal and inter-service cooperation in order to improve delivery of services even in normal times. This is true especially for small municipalities and for wide rural areas. The role and the impact of ICTs in fostering the resilience of social infrastructures is put to test during natural disasters. Furthermore, a better use of ICTs would increase resilience of aforementioned social infrastructures.

This project focuses on aforementioned typologies of social infrastructures, highlighting major interactions among them, during a range of typologies of natural disaster. Resilience of different typologies of social infrastructures will be analysed referring to different natural events/disasters. In particular, ICT platforms will be designed, implemented and tested.

General objectives:

- Making a review of the existing (best-) practices for managing social services, health services, and institutional communication as well as of the roles of local/regional governments in managing them during a natural disaster (both emergence and reconstruction phases will be taken into account). This part of the research aims to review comparatively and to assess critically different policies that have already been implemented throughout the EU.
- Defining the critical elements playing a role in developing best practices to protect social infrastructure functionality and operability during natural disasters emergency and during the post-disaster reconstruction.
- Designing and developing a framework for an IT infrastructure preserving data and information interchange across social infrastructures.

- Implementing Open-source software and platforms, aimed at increasing the efficiency of the social infrastructures in normal times, and at providing higher resilience of these services during natural disasters. Their implementation will also allow a more efficient data integration among services. The ICT framework will be developed making use of the best practices defined in the previous part of the project, according to the cross-country review, and developing resilient IT inter-operable and scalable web platforms.
- Developing proposals for efficient procedures of information diffusion, during the most critical phases of natural disasters and during the following reconstruction phase, allowing for open innovation and citizens' engagement as crucial elements supporting long term effectiveness and efficiency¹.
- Testing the proposed platforms and procedures in at least two regions.
- Risk society creates potential disasters. We are aware of this, and that we are considering one aspects, limiting natural disasters, selected in order to be able to focus on the complex relations we are trying to explore, but what to find cases where civil protection is deeply involved so that we can say that our results are applicable to other cases like refugee situation in EU at the moment or climate change.

¹ See: http://europa.eu/rapid/press-release_SPEECH-15-5243_en.htm and the contributions of the Open Innovation Strategy and Policy Group (OISPG) <http://ec.europa.eu/digital-agenda/en/open-innovation-strategy-and-policy-group>;